SEQUENCE LISTING

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<120> LIPOPROTEINS AS NUCLEIC ACID VECTORS

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<170> PatentIn Ver. 2.1

<210> 1
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<212> PRT
<213> Homo sapiens

<400> 1

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Glu Glu Glu Met Leu Glu Asn Val Ser Leu Val Cys Pro Lys Asp Ala
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Thr Arg Phe Lys His Leu Arg Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu
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Ser Ser Ser Gly Val Pro Gly Thr Ala Asp Ser Arg Ser Ala Thr Arg
         35                  40                  45

Ile Asn Cys Lys Val Glu Leu Glu Val Pro Gln Leu Cys Ser Phe Ile
     50                  55                  60

Leu Lys Thr Ser Gln Cys Thr Leu Lys Glu Val Tyr Gly Phe Asn Pro
 65                  70                  75                  80

Glu Gly Lys Ala Leu Leu Lys Lys Thr Lys Asn Ser Glu Glu Phe Ala
                 85                  90                  95

Ala Ala Met Ser Arg Tyr Glu Leu Lys Leu Ala Ile Pro Glu Gly Lys
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            100                 105                 110

Gln Val Phe Leu Tyr Pro Glu Lys Asp Glu Pro Thr Tyr Ile Leu Asn
        115                 120                 125

Ile Lys Arg Gly Ile Ile Ser Ala Leu Leu Val Pro Pro Glu Thr Glu
    130                 135                 140

Glu Ala Lys Gln Val Leu Phe Leu Asp Thr Val Tyr Gly Asn Cys Ser
145                 150                 155                 160

Thr His Phe Thr Val Lys Thr Arg Lys Gly Asn Val Ala Thr Glu Ile
                165                 170                 175

Ser Thr Glu Arg Asp Leu Gly Gln Cys Asp Arg Phe Lys Pro Ile Arg
            180                 185                 190

Thr Gly Ile Ser Pro Leu Ala Leu Ile Lys Gly Met Thr Arg Pro Leu
        195                 200                 205

Ser Thr Leu Ile Ser Ser Ser Gln Ser Cys Gln Tyr Thr Leu Asp Ala
    210                 215                 220

Lys Arg Lys His Val Ala Glu Ala Ile Cys Lys Glu Gln His Leu Phe
225                 230                 235                 240

Leu Pro Phe Ser Tyr Asn Asn Lys Tyr Gly Met Val Ala Gln Val Thr
                245                 250                 255

Gln Thr Leu Lys Leu Glu Asp Thr Pro Lys Ile Asn Ser Arg Phe Phe
            260                 265                 270

Gly Glu Gly Thr Lys Lys Met Gly Leu Ala Phe Glu Ser Thr Lys Ser
        275                 280                 285

Thr Ser Pro Pro Lys Gln Ala Glu Ala Val Leu Lys Thr Leu Gln Glu
    290                 295                 300

Leu Lys Lys Leu Thr Ile Ser Glu Gln Asn Ile Gln Arg Ala Asn Leu
305                 310                 315                 320

Phe Asn Lys Leu Val Thr Glu Leu Arg Gly Leu Ser Asp Glu Ala Val
                325                 330                 335

Thr Ser Leu Leu Pro Gln Leu Ile Glu Val Ser Ser Pro Ile Thr Leu
            340                 345                 350

Gln Ala Leu Val Gln Cys Gly Gln Pro Gln Cys Ser Thr His Ile Leu
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        355                 360                 365

Gln Trp Leu Lys Arg Val His Ala Asn Pro Leu Leu Ile Asp Val Val
    370                 375                 380

Thr Tyr Leu Val Ala Leu Ile Pro Glu Pro Ser Ala Gln Gln Leu Arg
385                 390                 395                 400

Glu Ile Phe Asn Met Ala Arg Asp Gln Arg Ser Arg Ala Thr Leu Tyr
                405                 410                 415

Ala Leu Ser His Ala Val Asn Asn Tyr His Lys Thr Asn Pro Thr Gly
            420                 425                 430

Thr Gln Glu Leu Leu Asp Ile Ala Asn Tyr Leu Met Glu Gln Ile Gln
        435                 440                 445

Asp Asp Cys Thr Gly Asp Glu Asp Tyr Thr Tyr Leu Ile Leu Arg Val
    450                 455                 460

Ile Gly Asn Met Gly Gln Thr Met Glu Gln Leu Thr Pro Glu Leu Lys
465                 470                 475                 480

Ser Ser Ile Leu Lys Cys Val Gln Ser Thr Lys Pro Ser Leu Met Ile
                485                 490                 495

Gln Lys Ala Ala Ile Gln Ala Leu Arg Lys Met Glu Pro Lys Asp Lys
            500                 505                 510

Asp Gln Glu Val Leu Leu Gln Thr Phe Leu Asp Asp Ala Ser Pro Gly
        515                 520                 525

Asp Lys Arg Leu Ala Ala Tyr Leu Met Leu Met Arg Ser Pro Ser Gln
    530                 535                 540

Ala Asp Ile Asn Lys Ile Val Gln Ile Leu Pro Trp Glu Gln Asn Glu
545                 550                 555                 560

Gln Val Lys Asn Phe Val Ala Ser His Ile Ala Asn Ile Leu Asn Ser
                565                 570                 575

Glu Glu Leu Asp Ile Gln Asp Leu Lys Lys Leu Val Lys Glu Ala Leu
            580                 585                 590

Lys Glu Ser Gln Leu Pro Thr Val Met Asp Phe Arg Lys Phe Ser Arg
        595                 600                 605

Asn Tyr Gln Leu Tyr Lys Ser Val Ser Leu Pro Ser Leu Asp Pro Ala
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610 615 620

Ser Ala Lys Ile Glu Gly Asn Leu Ile Phe Asp Pro Asn Asn Tyr Leu
625 630 635 640

Pro Lys Glu Ser Met Leu Lys Thr Thr Leu Thr Ala Phe Gly Phe Ala
645 650 655

Ser Ala Asp Leu Ile Glu Ile Gly Leu Glu Gly Lys Gly Phe Glu Pro
660 665 670

Thr Leu Glu Ala Leu Phe Gly Lys Gln Gly Phe Phe Pro Asp Ser Val
675 680 685

Asn Lys Ala Leu Tyr Trp Val Asn Gly Gln Val Pro Asp Gly Val Ser
690 695 700

Lys Val Leu Val Asp His Phe Gly Tyr Thr Lys Asp Asp Lys His Glu
705 710 715 720

Gln Asp Met Val Asn Gly Ile Met Leu Ser Val Glu Lys Leu Ile Lys
725 730 735

Asp Leu Lys Ser Lys Glu Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile
740 745 750

Leu Gly Glu Glu Leu Gly Phe Ala Ser Leu His Asp Leu Gln Leu Leu
755 760 765

Gly Lys Leu Leu Leu Met Gly Ala Arg Thr Leu Gln Gly Ile Pro Gln
770 775 780

Met Ile Gly Glu Val Ile Arg Lys Gly Ser Lys Asn Asp Phe Phe Leu
785 790 795 800

His Tyr Ile Phe Met Glu Asn Ala Phe Glu Leu Pro Thr Gly Ala Gly
805 810 815

Leu Gln Leu Gln Ile Ser Ser Ser Gly Val Ile Ala Pro Gly Ala Lys
820 825 830

Ala Gly Val Lys Leu Glu Val Ala Asn Met Gln Ala Glu Leu Val Ala
835 840 845

Lys Pro Ser Val Ser Val Glu Phe Val Thr Asn Met Gly Ile Ile Ile
850 855 860

Pro Asp Phe Ala Arg Ser Gly Val Gln Met Asn Thr Asn Phe Phe His

865 870 875 880

Glu Ser Gly Leu Glu Ala His Val Ala Leu Lys Ala Gly Lys Leu Lys
885 890 895

Phe Ile Ile Pro Ser Pro Lys Arg Pro Val Lys Leu Leu Ser Gly Gly
900 905 910

Asn Thr Leu His Leu Val Ser Thr Thr Lys Thr Glu Val Ile Pro Pro
915 920 925

Leu Ile Glu Asn Arg Gln Ser Trp Ser Val Cys Lys Gln Val Phe Pro
930 935 940

Gly Leu Asn Tyr Cys Thr Ser Gly Ala Tyr Ser Asn Ala Ser Ser Thr
945 950 955 960

Asp Ser Ala Ser Tyr Tyr Pro Leu Thr Gly Asp Thr Arg Leu Glu Leu
965 970 975

Glu Leu Arg Pro Thr Gly Glu Ile Glu Gln Tyr Ser Val Ser Ala Thr
980 985 990

Tyr Glu Leu Gln Arg Glu Asp Arg Ala Leu Val Asp Thr Leu Lys Phe
995 1000 1005

Val Thr Gln Ala Glu Gly Ala Lys Gln Thr Glu Ala Thr Met Thr Phe
1010 1015 1020

Lys Tyr Asn Arg Gln Ser Met Thr Leu Ser Ser Glu Val Gln Ile Pro
1025 1030 1035 1040

Asp Phe Asp Val Asp Leu Gly Thr Ile Leu Arg Val Asn Asp Glu Ser
1045 1050 1055

Thr Glu Gly Lys Thr Ser Tyr Arg Leu Thr Leu Asp Ile Gln Asn Lys
1060 1065 1070

Lys Ile Thr Glu Val Ala Leu Met Gly His Leu Ser Cys Asp Thr Lys
1075 1080 1085

Glu Glu Arg Lys Ile Lys Gly Val Ile Ser Ile Pro Arg Leu Gln Ala
1090 1095 1100

Glu Ala Arg Ser Glu Ile Leu Ala His Trp Ser Pro Ala Lys Leu Leu
1105 1110 1115 1120

Leu Gln Met Asp Ser Ser Ala Thr Ala Tyr Gly Ser Thr Val Ser Lys

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                1125                1130                1135

Arg Val Ala Trp His Tyr Asp Glu Glu Lys Ile Glu Phe Glu Trp Asn
            1140                1145                1150

Thr Gly Thr Asn Val Asp Thr Lys Lys Met Thr Ser Asn Phe Pro Val
        1155                1160                1165

Asp Leu Ser Asp Tyr Pro Lys Ser Leu His Met Tyr Ala Asn Arg Leu
    1170                1175                1180

Leu Asp His Arg Val Pro Glu Thr Asp Met Thr Phe Arg His Val Gly
1185                1190                1195                1200

Ser Lys Leu Ile Val Ala Met Ser Ser Trp Leu Gln Lys Ala Ser Gly
                1205                1210                1215

Ser Leu Pro Tyr Thr Gln Thr Leu Gln Asp His Leu Asn Ser Leu Lys
            1220                1225                1230

Glu Phe Asn Leu Gln Asn Met Gly Leu Pro Asp Phe His Ile Pro Glu
        1235                1240                1245

Asn Leu Phe Leu Lys Ser Asp Gly Arg Val Lys Tyr Thr Leu Asn Lys
    1250                1255                1260

Asn Ser Leu Lys Ile Glu Ile Pro Leu Pro Phe Gly Gly Lys Ser Ser
1265                1270                1275                1280

Arg Asp Leu Lys Met Leu Glu Thr Val Arg Thr Pro Ala Leu His Phe
                1285                1290                1295

Lys Ser Val Gly Phe His Leu Pro Ser Arg Glu Phe Gln Val Pro Thr
            1300                1305                1310

Phe Thr Ile Pro Lys Leu Tyr Gln Leu Gln Val Pro Leu Leu Gly Val
        1315                1320                1325

Leu Asp Leu Ser Thr Asn Val Tyr Ser Asn Leu Tyr Asn Trp Ser Ala
    1330                1335                1340

Ser Tyr Ser Gly Gly Asn Thr Ser Thr Asp His Phe Ser Leu Arg Ala
1345                1350                1355                1360

Arg Tyr His Met Lys Ala Asp Ser Val Val Asp Leu Leu Ser Tyr Asn
                1365                1370                1375

Val Gln Gly Ser Gly Glu Thr Thr Tyr Asp His Lys Asn Thr Phe Thr
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1380 1385 1390

Leu Ser Cys Asp Gly Ser Leu Arg His Lys Phe Leu Asp Ser Asn Ile
1395 1400 1405

Lys Phe Ser His Val Glu Lys Leu Gly Asn Asn Pro Val Ser Lys Gly
1410 1415 1420

Leu Leu Ile Phe Asp Ala Ser Ser Ser Trp Gly Pro Gln Met Ser Ala
1425 1430 1435 1440

Ser Val His Leu Asp Ser Lys Lys Lys Gln His Leu Phe Val Lys Glu
1445 1450 1455

Val Lys Ile Asp Gly Gln Phe Arg Val Ser Ser Phe Tyr Ala Lys Gly
1460 1465 1470

Thr Tyr Gly Leu Ser Cys Gln Arg Asp Pro Asn Thr Gly Arg Leu Asn
1475 1480 1485

Gly Glu Ser Asn Leu Arg Phe Asn Ser Ser Tyr Leu Gln Gly Thr Asn
1490 1495 1500

Gln Ile Thr Gly Arg Tyr Glu Asp Gly Thr Leu Ser Leu Thr Ser Thr
1505 1510 1515 1520

Ser Asp Leu Gln Ser Gly Ile Ile Lys Asn Thr Ala Ser Leu Lys Tyr
1525 1530 1535

Glu Asn Tyr Glu Leu Thr Leu Lys Ser Asp Thr Asn Gly Lys Tyr Lys
1540 1545 1550

Asn Phe Ala Thr Ser Asn Lys Met Asp Met Thr Phe Ser Lys Gln Asn
1555 1560 1565

Ala Leu Leu Arg Ser Glu Tyr Gln Ala Asp Tyr Glu Ser Leu Arg Phe
1570 1575 1580

Phe Ser Leu Leu Ser Gly Ser Leu Asn Ser His Gly Leu Glu Leu Asn
1585 1590 1595 1600

Ala Asp Ile Leu Gly Thr Asp Lys Ile Asn Ser Gly Ala His Lys Ala
1605 1610 1615

Thr Leu Arg Ile Gly Gln Asp Gly Ile Ser Thr Ser Ala Thr Thr Asn
1620 1625 1630

Leu Lys Cys Ser Leu Leu Val Leu Glu Asn Glu Leu Asn Ala Glu Leu

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       1635                1640                1645

Gly Leu Ser Gly Ala Ser Met Lys Leu Thr Thr Asn Gly Arg Phe Arg
   1650                1655                1660

Glu His Asn Ala Lys Phe Ser Leu Asp Gly Lys Ala Ala Leu Thr Glu
1665                1670                1675                1680

Leu Ser Leu Gly Ser Ala Tyr Gln Ala Met Ile Leu Gly Val Asp Ser
               1685                1690                1695

Lys Asn Ile Phe Asn Phe Lys Val Ser Gln Glu Gly Leu Lys Leu Ser
           1700                1705                1710

Asn Asp Met Met Gly Ser Tyr Ala Glu Met Lys Phe Asp His Thr Asn
       1715                1720                1725

Ser Leu Asn Ile Ala Gly Leu Ser Leu Asp Phe Ser Ser Lys Leu Asp
   1730                1735                1740

Asn Ile Tyr Ser Ser Asp Lys Phe Tyr Lys Gln Thr Val Asn Leu Gln
1745                1750                1755                1760

Leu Gln Pro Tyr Ser Leu Val Thr Thr Leu Asn Ser Asp Leu Lys Tyr
               1765                1770                1775

Asn Ala Leu Asp Leu Thr Asn Asn Gly Lys Leu Arg Leu Glu Pro Leu
           1780                1785                1790

Lys Leu His Val Ala Gly Asn Leu Lys Gly Ala Tyr Gln Asn Asn Glu
       1795                1800                1805

Ile Lys His Ile Tyr Ala Ile Ser Ser Ala Ala Leu Ser Ala Ser Tyr
   1810                1815                1820

Lys Ala Asp Thr Val Ala Lys Val Gln Gly Val Glu Phe Ser His Arg
1825                1830                1835                1840

Leu Asn Thr Asp Ile Ala Gly Leu Ala Ser Ala Ile Asp Met Ser Thr
               1845                1850                1855

Asn Tyr Asn Ser Asp Ser Leu His Phe Ser Asn Val Phe Arg Ser Val
           1860                1865                1870

Met Ala Pro Phe Thr Met Thr Ile Asp Ala His Thr Asn Gly Asn Gly
       1875                1880                1885

Lys Leu Ala Leu Trp Gly Glu His Thr Gly Gln Leu Tyr Ser Lys Phe
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   1890                1895                1900

Leu Leu Lys Ala Glu Pro Leu Ala Phe Thr Phe Ser His Asp Tyr Lys
1905                1910                1915                1920

Gly Ser Thr Ser His His Leu Val Ser Arg Lys Ser Ile Ser Ala Ala
               1925                1930                1935

Leu Glu His Lys Val Ser Ala Leu Leu Thr Pro Ala Glu Gln Thr Gly
           1940                1945                1950

Thr Trp Lys Leu Lys Thr Gln Phe Asn Asn Asn Glu Tyr Ser Gln Asp
       1955                1960                1965

Leu Asp Ala Tyr Asn Thr Lys Asp Lys Ile Gly Val Glu Leu Thr Gly
   1970                1975                1980

Arg Thr Leu Ala Asp Leu Thr Leu Leu Asp Ser Pro Ile Lys Val Pro
1985                1990                1995                2000

Leu Leu Leu Ser Glu Pro Ile Asn Ile Ile Asp Ala Leu Glu Met Arg
               2005                2010                2015

Asp Ala Val Glu Lys Pro Gln Glu Phe Thr Ile Val Ala Phe Val Lys
           2020                2025                2030

Tyr Asp Lys Asn Gln Asp Val His Ser Ile Asn Leu Pro Phe Phe Glu
       2035                2040                2045

Thr Leu Gln Glu Tyr Phe Glu Arg Asn Arg Gln Thr Ile Ile Val Val
   2050                2055                2060

Val Glu Asn Val Gln Arg Asn Leu Lys His Ile Asn Ile Asp Gln Phe
2065                2070                2075                2080

Val Arg Lys Tyr Arg Ala Ala Leu Gly Lys Leu Pro Gln Gln Ala Asn
               2085                2090                2095

Asp Tyr Leu Asn Ser Phe Asn Trp Glu Arg Gln Val Ser His Ala Lys
           2100                2105                2110

Glu Lys Leu Thr Ala Leu Thr Lys Lys Tyr Arg Ile Thr Glu Asn Asp
       2115                2120                2125

Ile Gln Ile Ala Leu Asp Asp Ala Lys Ile Asn Phe Asn Glu Lys Leu
   2130                2135                2140

Ser Gln Leu Gln Thr Tyr Met Ile Gln Phe Asp Gln Tyr Ile Lys Asp
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2145 2150 2155 2160

Ser Tyr Asp Leu His Asp Leu Lys Ile Ala Ile Ala Asn Ile Ile Asp
2165 2170 2175

Glu Ile Ile Glu Lys Leu Lys Ser Leu Asp Glu His Tyr His Ile Arg
2180 2185 2190

Val Asn Leu Val Lys Thr Ile His Asp Leu His Leu Phe Ile Glu Asn
2195 2200 2205

Ile Asp Phe Asn Lys Ser Gly Ser Ser Thr Ala Ser Trp Ile Gln Asn
2210 2215 2220

Val Asp Thr Lys Tyr Gln Ile Arg Ile Gln Ile Gln Glu Lys Leu Gln
2225 2230 2235 2240

Gln Leu Lys Arg His Ile Gln Asn Ile Asp Ile Gln His Leu Ala Gly
2245 2250 2255

Lys Leu Lys Gln His Ile Glu Ala Ile Asp Val Arg Val Leu Leu Asp
2260 2265 2270

Gln Leu Gly Thr Thr Ile Ser Phe Glu Arg Ile Asn Asp Val Leu Glu
2275 2280 2285

His Val Lys His Phe Val Ile Asn Leu Ile Gly Asp Phe Glu Val Ala
2290 2295 2300

Glu Lys Ile Asn Ala Phe Arg Ala Lys Val His Glu Leu Ile Glu Arg
2305 2310 2315 2320

Tyr Glu Val Asp Gln Gln Ile Gln Val Leu Met Asp Lys Leu Val Glu
2325 2330 2335

Leu Thr His Gln Tyr Lys Leu Lys Glu Thr Ile Gln Lys Leu Ser Asn
2340 2345 2350

Val Leu Gln Gln Val Lys Ile Lys Asp Tyr Phe Glu Lys Leu Val Gly
2355 2360 2365

Phe Ile Asp Asp Ala Val Lys Lys Leu Asn Glu Leu Ser Phe Lys Thr
2370 2375 2380

Phe Ile Glu Asp Val Asn Lys Phe Leu Asp Met Leu Ile Lys Lys Leu
2385 2390 2395 2400

Lys Ser Phe Asp Tyr His Gln Phe Val Asp Glu Thr Asn Asp Lys Ile

2405 2410 2415

Arg Glu Val Thr Gln Arg Leu Asn Gly Glu Ile Gln Ala Leu Glu Leu
2420 2425 2430

Pro Gln Lys Ala Glu Ala Leu Lys Leu Phe Leu Glu Glu Thr Lys Ala
2435 2440 2445

Thr Val Ala Val Tyr Leu Glu Ser Leu Gln Asp Thr Lys Ile Thr Leu
2450 2455 2460

Ile Ile Asn Trp Leu Gln Glu Ala Leu Ser Ser Ala Ser Leu Ala His
2465 2470 2475 2480

Met Lys Ala Lys Phe Arg Glu Thr Leu Glu Asp Thr Arg Asp Arg Met
2485 2490 2495

Tyr Asp Met Asp Ile Gln Gln Glu Leu Gln Arg Tyr Leu Ser Leu Val
2500 2505 2510

Gly Gln Val Tyr Ser Thr Leu Val Thr Tyr Ile Ser Asp Trp Trp Thr
2515 2520 2525

Leu Ala Ala Lys Asn Leu Thr Asp Phe Ala Glu Gln Tyr Ser Ile Gln
2530 2535 2540

Asp Trp Ala Lys Arg Met Lys Ala Leu Val Glu Gln Gly Phe Thr Val
2545 2550 2555 2560

Pro Glu Ile Lys Thr Ile Leu Gly Thr Met Pro Ala Phe Glu Val Ser
2565 2570 2575

Leu Gln Ala Leu Gln Lys Ala Thr Phe Gln Thr Pro Asp Phe Ile Val
2580 2585 2590

Pro Leu Thr Asp Leu Arg Ile Pro Ser Val Gln Ile Asn Phe Lys Asp
2595 2600 2605

Leu Lys Asn Ile Lys Ile Pro Ser Arg Phe Ser Thr Pro Glu Phe Thr
2610 2615 2620

Ile Leu Asn Thr Phe His Ile Pro Ser Phe Thr Ile Asp Phe Val Glu
2625 2630 2635 2640

Met Lys Val Lys Ile Ile Arg Thr Ile Asp Gln Met Gln Asn Ser Glu
2645 2650 2655

Leu Gln Trp Pro Val Pro Asp Ile Tyr Leu Arg Asp Leu Lys Val Glu

2660 2665 2670

Asp Ile Pro Leu Ala Arg Ile Thr Leu Pro Asp Phe Arg Leu Pro Glu
2675 2680 2685

Ile Ala Ile Pro Glu Phe Ile Ile Pro Thr Leu Asn Leu Asn Asp Phe
2690 2695 2700

Gln Val Pro Asp Leu His Ile Pro Glu Phe Gln Leu Pro His Ile Ser
2705 2710 2715 2720

His Thr Ile Glu Val Pro Thr Phe Gly Lys Leu Tyr Ser Ile Leu Lys
2725 2730 2735

Ile Gln Ser Pro Leu Phe Thr Leu Asp Ala Asn Ala Asp Ile Gly Asn
2740 2745 2750

Gly Thr Thr Ser Ala Asn Glu Ala Gly Ile Ala Ala Ser Ile Thr Ala
2755 2760 2765

Lys Gly Glu Ser Lys Leu Glu Val Leu Asn Phe Asp Phe Gln Ala Asn
2770 2775 2780

Ala Gln Leu Ser Asn Pro Lys Ile Asn Pro Leu Ala Leu Lys Glu Ser
2785 2790 2795 2800

Val Lys Phe Ser Ser Lys Tyr Leu Arg Thr Glu His Gly Ser Glu Met
2805 2810 2815

Leu Phe Phe Gly Asn Ala Ile Glu Gly Lys Ser Asn Thr Val Ala Ser
2820 2825 2830

Leu His Thr Glu Lys Asn Thr Leu Glu Leu Ser Asn Gly Val Ile Val
2835 2840 2845

Lys Ile Asn Asn Gln Leu Thr Leu Asp Ser Asn Thr Lys Tyr Phe His
2850 2855 2860

Lys Leu Asn Ile Pro Lys Leu Asp Phe Ser Ser Gln Ala Asp Leu Arg
2865 2870 2875 2880

Asn Glu Ile Lys Thr Leu Leu Lys Ala Gly His Ile Ala Trp Thr Ser
2885 2890 2895

Ser Gly Lys Gly Ser Trp Lys Trp Ala Cys Pro Arg Phe Ser Asp Glu
2900 2905 2910

Gly Thr His Glu Ser Gln Ile Ser Phe Thr Ile Glu Gly Pro Leu Thr

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       2915                2920                2925

Ser Phe Gly Leu Ser Asn Lys Ile Asn Ser Lys His Leu Arg Val Asn
   2930                2935                2940

Gln Asn Leu Val Tyr Glu Ser Gly Ser Leu Asn Phe Ser Lys Leu Glu
2945                2950                2955                2960

Ile Gln Ser Gln Val Asp Ser Gln His Val Gly His Ser Val Leu Thr
               2965                2970                2975

Ala Lys Gly Met Ala Leu Phe Gly Glu Gly Lys Ala Glu Phe Thr Gly
           2980                2985                2990

Arg His Asp Ala His Leu Asn Gly Lys Val Ile Gly Thr Leu Lys Asn
       2995                3000                3005

Ser Leu Phe Phe Ser Ala Gln Pro Phe Glu Ile Thr Ala Ser Thr Asn
   3010                3015                3020

Asn Glu Gly Asn Leu Lys Val Arg Phe Pro Leu Arg Leu Thr Gly Lys
3025                3030                3035                3040

Ile Asp Phe Leu Asn Asn Tyr Ala Leu Phe Leu Ser Pro Ser Ala Gln
               3045                3050                3055

Gln Ala Ser Trp Gln Val Ser Ala Arg Phe Asn Gln Tyr Lys Tyr Asn
           3060                3065                3070

Gln Asn Phe Ser Ala Gly Asn Asn Glu Asn Ile Met Glu Ala His Val
       3075                3080                3085

Gly Ile Asn Gly Glu Ala Asn Leu Asp Phe Leu Asn Ile Pro Leu Thr
   3090                3095                3100

Ile Pro Glu Met Arg Leu Pro Tyr Thr Ile Ile Thr Thr Pro Pro Leu
3105                3110                3115                3120

Lys Asp Phe Ser Leu Trp Glu Lys Thr Gly Leu Lys Glu Phe Leu Lys
               3125                3130                3135

Thr Thr Lys Gln Ser Phe Asp Leu Ser Val Lys Ala Gln Tyr Lys Lys
           3140                3145                3150

Asn Lys His Arg His Ser Ile Thr Asn Pro Leu Ala Val Leu Cys Glu
       3155                3160                3165

Phe Ile Ser Gln Ser Ile Lys Ser Phe Asp Arg His Phe Glu Lys Asn
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   3170                3175                3180

Arg Asn Asn Ala Leu Asp Phe Val Thr Lys Ser Tyr Asn Glu Thr Lys
3185                3190                3195                3200

Ile Lys Phe Asp Lys Tyr Lys Ala Glu Lys Ser His Asp Glu Leu Pro
               3205                3210                3215

Arg Thr Phe Gln Ile Pro Gly Tyr Thr Val Pro Val Val Asn Val Glu
           3220                3225                3230

Val Ser Pro Phe Thr Ile Glu Met Ser Ala Phe Gly Tyr Val Phe Pro
       3235                3240                3245

Lys Ala Val Ser Met Pro Ser Phe Ser Ile Leu Gly Ser Asp Val Arg
   3250                3255                3260

Val Pro Ser Tyr Thr Leu Ile Leu Pro Ser Leu Glu Leu Pro Val Leu
3265                3270                3275                3280

His Val Pro Arg Asn Leu Lys Leu Ser Leu Pro His Phe Lys Glu Leu
               3285                3290                3295

Cys Thr Ile Ser His Ile Phe Ile Pro Ala Met Gly Asn Ile Thr Tyr
           3300                3305                3310

Asp Phe Ser Phe Lys Ser Ser Val Ile Thr Leu Asn Thr Asn Ala Glu
       3315                3320                3325

Leu Phe Asn Gln Ser Asp Ile Val Ala His Leu Leu Ser Ser Ser Ser
   3330                3335                3340

Ser Val Ile Asp Ala Leu Gln Tyr Lys Leu Glu Gly Thr Thr Arg Leu
3345                3350                3355                3360

Thr Arg Lys Arg Gly Leu Lys Leu Ala Thr Ala Leu Ser Leu Ser Asn
               3365                3370                3375

Lys Phe Val Glu Gly Ser His Asn Ser Thr Val Ser Leu Thr Thr Lys
           3380                3385                3390

Asn Met Glu Val Ser Val Ala Lys Thr Thr Lys Ala Glu Ile Pro Ile
       3395                3400                3405

Leu Arg Met Asn Phe Lys Gln Glu Leu Asn Gly Asn Thr Lys Ser Lys
   3410                3415                3420

Pro Thr Val Ser Ser Ser Met Glu Phe Lys Tyr Asp Phe Asn Ser Ser
```

3425 3430 3435 3440

Met Leu Tyr Ser Thr Ala Lys Gly Ala Val Asp His Lys Leu Ser Leu
3445 3450 3455

Glu Ser Leu Thr Ser Tyr Phe Ser Ile Glu Ser Ser Thr Lys Gly Asp
3460 3465 3470

Val Lys Gly Ser Val Leu Ser Arg Glu Tyr Ser Gly Thr Ile Ala Ser
3475 3480 3485

Glu Ala Asn Thr Tyr Leu Asn Ser Lys Ser Thr Arg Ser Ser Val Lys
3490 3495 3500

Leu Gln Gly Thr Ser Lys Ile Asp Asp Ile Trp Asn Leu Glu Val Lys
3505 3510 3515 3520

Glu Asn Phe Ala Gly Glu Ala Thr Leu Gln Arg Ile Tyr Ser Leu Trp
3525 3530 3535

Glu His Ser Thr Lys Asn His Leu Gln Leu Glu Gly Leu Phe Phe Thr
3540 3545 3550

Asn Gly Glu His Thr Ser Lys Ala Thr Leu Glu Leu Ser Pro Trp Gln
3555 3560 3565

Met Ser Ala Leu Val Gln Val His Ala Ser Gln Pro Ser Ser Phe His
3570 3575 3580

Asp Phe Pro Asp Leu Gly Gln Glu Val Ala Leu Asn Ala Asn Thr Lys
3585 3590 3595 3600

Asn Gln Lys Ile Arg Trp Lys Asn Glu Val Arg Ile His Ser Gly Ser
3605 3610 3615

Phe Gln Ser Gln Val Glu Leu Ser Asn Asp Gln Glu Lys Ala His Leu
3620 3625 3630

Asp Ile Ala Gly Ser Leu Glu Gly His Leu Arg Phe Leu Lys Asn Ile
3635 3640 3645

Ile Leu Pro Val Tyr Asp Lys Ser Leu Trp Asp Phe Leu Lys Leu Asp
3650 3655 3660

Val Thr Thr Ser Ile Gly Arg Arg Gln His Leu Arg Val Ser Thr Ala
3665 3670 3675 3680

Phe Val Tyr Thr Lys Asn Pro Asn Gly Tyr Ser Phe Ser Ile Pro Val

```
                3685                3690                3695

Lys Val Leu Ala Asp Lys Phe Ile Thr Pro Gly Leu Lys Leu Asn Asp
            3700                3705                3710

Leu Asn Ser Val Leu Val Met Pro Thr Phe His Val Pro Phe Thr Asp
        3715                3720                3725

Leu Gln Val Pro Ser Cys Lys Leu Asp Phe Arg Glu Ile Gln Ile Tyr
    3730                3735                3740

Lys Lys Leu Arg Thr Ser Ser Phe Ala Leu Asn Leu Pro Thr Leu Pro
3745                3750                3755                3760

Glu Val Lys Phe Pro Glu Val Asp Val Leu Thr Lys Tyr Ser Gln Pro
                3765                3770                3775

Glu Asp Ser Leu Ile Pro Phe Phe Glu Ile Thr Val Pro Glu Ser Gln
            3780                3785                3790

Leu Thr Val Ser Gln Phe Thr Leu Pro Lys Ser Val Ser Asp Gly Ile
        3795                3800                3805

Ala Ala Leu Asp Leu Asn Ala Val Ala Asn Lys Ile Ala Asp Phe Glu
    3810                3815                3820

Leu Pro Thr Ile Ile Val Pro Glu Gln Thr Ile Glu Ile Pro Ser Ile
3825                3830                3835                3840

Lys Phe Ser Val Pro Ala Gly Ile Val Ile Pro Ser Phe Gln Ala Leu
                3845                3850                3855

Thr Ala Arg Phe Glu Val Asp Ser Pro Val Tyr Asn Ala Thr Trp Ser
            3860                3865                3870

Ala Ser Leu Lys Asn Lys Ala Asp Tyr Val Glu Thr Val Leu Asp Ser
        3875                3880                3885

Thr Cys Ser Ser Thr Val Gln Phe Leu Glu Tyr Glu Leu Asn Val Leu
    3890                3895                3900

Gly Thr His Lys Ile Glu Asp Gly Thr Leu Ala Ser Lys Thr Lys Gly
3905                3910                3915                3920

Thr Leu Ala His Arg Asp Phe Ser Ala Glu Tyr Glu Glu Asp Gly Lys
                3925                3930                3935

Phe Glu Gly Leu Gln Glu Trp Glu Gly Lys Ala His Leu Asn Ile Lys
```

```
          3940                3945                3950

Ser Pro Ala Phe Thr Asp Leu His Leu Arg Tyr Gln Lys Asp Lys Lys
       3955                3960                3965

Gly Ile Ser Thr Ser Ala Ala Ser Pro Ala Val Gly Thr Val Gly Met
   3970                3975                3980

Asp Met Asp Glu Asp Asp Asp Phe Ser Lys Trp Asn Phe Tyr Tyr Ser
3985                3990                3995                4000

Pro Gln Ser Ser Pro Asp Lys Lys Leu Thr Ile Phe Lys Thr Glu Leu
               4005                4010                4015

Arg Val Arg Glu Ser Asp Glu Glu Thr Gln Ile Lys Val Asn Trp Glu
           4020                4025                4030

Glu Glu Ala Ala Ser Gly Leu Leu Thr Ser Leu Lys Asp Asn Val Pro
       4035                4040                4045

Lys Ala Thr Gly Val Leu Tyr Asp Tyr Val Asn Lys Tyr His Trp Glu
   4050                4055                4060

His Thr Gly Leu Thr Leu Arg Glu Val Ser Ser Lys Leu Arg Arg Asn
4065                4070                4075                4080

Leu Gln Asn Asn Ala Glu Trp Val Tyr Gln Gly Ala Ile Arg Gln Ile
               4085                4090                4095

Asp Asp Ile Asp Val Arg Phe Gln Lys Ala Ala Ser Gly Thr Thr Gly
           4100                4105                4110

Thr Tyr Gln Glu Trp Lys Asp Lys Ala Gln Asn Leu Tyr Gln Glu Leu
       4115                4120                4125

Leu Thr Gln Glu Gly Gln Ala Ser Phe Gln Gly Leu Lys Asp Asn Val
   4130                4135                4140

Phe Asp Gly Leu Val Arg Val Thr Gln Lys Phe His Met Lys Val Lys
4145                4150                4155                4160

His Leu Ile Asp Ser Leu Ile Asp Phe Leu Asn Phe Pro Arg Phe Gln
               4165                4170                4175

Phe Pro Gly Lys Pro Gly Ile Tyr Thr Arg Glu Glu Leu Cys Thr Met
           4180                4185                4190

Phe Ile Arg Glu Val Gly Thr Val Leu Ser Gln Val Tyr Ser Lys Val
```

```
       4195                4200                4205

His Asn Gly Ser Glu Ile Leu Phe Ser Tyr Phe Gln Asp Leu Val Ile
   4210                4215                4220

Thr Leu Pro Phe Glu Leu Arg Lys His Lys Leu Ile Asp Val Ile Ser
4225                4230                4235                4240

Met Tyr Arg Glu Leu Leu Lys Asp Leu Ser Lys Glu Ala Gln Glu Val
               4245                4250                4255

Phe Lys Ala Ile Gln Ser Leu Lys Thr Thr Glu Val Leu Arg Asn Leu
           4260                4265                4270

Gln Asp Leu Leu Gln Phe Ile Phe Gln Leu Ile Glu Asp Asn Ile Lys
       4275                4280                4285

Gln Leu Lys Glu Met Lys Phe Thr Tyr Leu Ile Asn Tyr Ile Gln Asp
   4290                4295                4300

Glu Ile Asn Thr Ile Phe Asn Asp Tyr Ile Pro Tyr Val Phe Lys Leu
4305                4310                4315                4320

Leu Lys Glu Asn Leu Cys Leu Asn Leu His Lys Phe Asn Glu Phe Ile
               4325                4330                4335

Gln Asn Glu Leu Gln Glu Ala Ser Gln Glu Leu Gln Gln Ile His Gln
           4340                4345                4350

Tyr Ile Met Ala Leu Arg Glu Glu Tyr Phe Asp Pro Ser Ile Val Gly
       4355                4360                4365

Trp Thr Val Lys Tyr Tyr Glu Leu Glu Glu Lys Ile Val Ser Leu Ile
   4370                4375                4380

Lys Asn Leu Leu Val Ala Leu Lys Asp Phe His Ser Glu Tyr Ile Val
4385                4390                4395                4400

Ser Ala Ser Asn Phe Thr Ser Gln Leu Ser Ser Gln Val Glu Gln Phe
               4405                4410                4415

Leu His Arg Asn Ile Gln Glu Tyr Leu Ser Ile Leu Thr Asp Pro Asp
           4420                4425                4430

Gly Lys Gly Lys Glu Lys Ile Ala Glu Leu Ser Ala Thr Ala Gln Glu
       4435                4440                4445

Ile Ile Lys Ser Gln Ala Ile Ala Thr Lys Lys Ile Ile Ser Asp Tyr
```

```
   4450                4455                4460

His Gln Gln Phe Arg Tyr Lys Leu Gln Asp Phe Ser Asp Gln Leu Ser
4465                4470                4475                4480

Asp Tyr Tyr Glu Lys Phe Ile Ala Glu Ser Lys Arg Leu Ile Asp Leu
               4485                4490                4495

Ser Ile Gln Asn Tyr His Thr Phe Leu Ile Tyr Ile Thr Glu Leu Leu
           4500                4505                4510

Lys Lys Leu Gln Ser Thr Thr Val Met Asn Pro Tyr Met Lys Leu Ala
       4515                4520                4525

Pro Gly Glu Leu Thr Ile Ile Leu
   4530                4535
```

<210> 2
<211> 3
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> (2)
<223> x = can be any naturally occurring amino acid

<400> 2
Pro Xaa Pro
  1

<210> 3
<211> 46
<212> PRT
<213> Homo sapiens

<400> 3
```
Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu Ser Ser Ser Gly Val Pro Gly
  1               5                  10                  15

Thr Ala Asp Ser Arg Ser Ala Thr Arg Ile Asn Cys Lys Val Glu Leu
             20                  25                  30

Glu Val Pro Gln Leu Cys Ser Phe Ile Leu Lys Thr Ser Gln
         35                  40                  45
```

<210> 4
<211> 45
<212> PRT
<213> Homo sapiens

<400> 4
Ala Tyr Asp Phe Asn Tyr Pro Ile Lys Lys Asp Ser Ser Ser Gln Leu
1 5 10 15

Leu Ser Val Gln Gln Gly Glu Thr Ile Tyr Ile Leu Asn Lys Asn Ser
20 25 30

Ser Gly Trp Trp Asp Gly Leu Val Ile Asp Asp Ser Asn
35 40 45

<210> 5
<211> 45
<212> PRT
<213> Homo sapiens

<400> 5
Val Tyr Gly Phe Asn Pro Glu Gly Lys Ala Leu Leu Lys Lys Thr Lys
1 5 10 15

Asn Ser Glu Glu Phe Ala Ala Ala Met Ser Arg Tyr Glu Leu Lys Leu
20 25 30

Ala Ile Pro Glu Gly Lys Gln Val Phe Leu Tyr Pro Glu
35 40 45

<210> 6
<211> 47
<212> PRT
<213> Homo sapiens

<400> 6
Leu Tyr Asp Phe Val Ala Ser Gly Asp Asn Thr Leu Ser Ile Thr Lys
1 5 10 15

Gly Glu Lys Leu Arg Val Leu Gly Tyr Asn His Tyr Asn Gly Glu Trp
20 25 30

Cys Glu Ala Gln Thr Lys Asn Gly Gln Gly Trp Val Pro Ser Asn
35 40 45

<210> 7
<211> 44
<212> PRT
<213> Homo sapiens

<400> 7
Phe Leu Pro Phe Ser Tyr Asn Asn Lys Tyr Gly Met Val Ala Gln Val
1 5 10 15

Thr Gln Thr Leu Lys Leu Glu Asp Thr Pro Lys Ile Asn Ser Arg Phe
20 25 30

Phe Gly Glu Gly Thr Lys Lys Met Gly Leu Ala Phe
35 40

<210> 8
<211> 43
<212> PRT
<213> Homo sapiens

<400> 8
Leu Phe Asp Tyr Lys Ala Gln Arg Glu Asp Glu Leu Thr Phe Thr Lys
1 5 10 15

Ser Ala Ile Ile Gln Asn Val Glu Lys Gln Glu Gly Gly Trp Trp Arg
20 25 30

Gly Asp Tyr Gly Gly Lys Lys Gln Leu Trp Phe
35 40

<210> 9
<211> 45
<212> PRT
<213> Homo sapiens

<400> 9
Phe Leu Pro Phe Ser Tyr Asn Asn Lys Tyr Gly Met Val Ala Gln Val
1 5 10 15

Thr Gln Thr Leu Lys Leu Glu Asp Thr Pro Lys Ile Asn Ser Arg Phe
20 25 30

Phe Gly Glu Gly Thr Lys Lys Met Gly Leu Ala Phe Glu
35 40 45

<210> 10
<211> 46
<212> PRT
<213> Homo sapiens

<400> 10
Leu His Ser Tyr Glu Pro Ser His Asp Gly Asp Leu Gly Phe Glu Lys
1 5 10 15

Gly Glu Gln Leu Arg Ile Leu Glu Gln Ser Gly Glu Trp Trp Lys Ala
20 25 30

Gln Ser Leu Thr Thr Gly Gln Glu Gly Phe Ile Pro Phe Asn
35 40 45

<210> 11
<211> 62
<212> PRT
<213> Homo sapiens

<400> 11
Tyr Thr Tyr Leu Ile Leu Arg Val Ile Gly Asn Met Gly Gln Thr Met
1 5 10 15

Glu Gln Leu Thr Pro Glu Leu Lys Ser Ser Ile Leu Lys Cys Val Gln
20 25 30

Ser Thr Lys Pro Ser Leu Met Ile Gln Lys Ala Ala Ile Gln Ala Leu
35 40 45

Arg Lys Met Glu Pro Lys Asp Lys Asp Gln Glu Val Leu Leu
50 55 60

<210> 12
<211> 53
<212> PRT
<213> Homo sapiens

<400> 12
Val Val Ala Leu Phe Asp Tyr Ala Ala Val Asn Asp Arg Asp Leu Gln
1 5 10 15

Val Leu Lys Gly Glu Lys Leu Gln Val Leu Arg Ser Thr Gly Asp Trp
20 25 30

```
Trp Leu Ala Arg Ser Leu Val Thr Gly Arg Glu Gly Tyr Val Pro Ser
         35                  40                  45

Asn Phe Val Ala Pro
     50
```

<210> 13
<211> 50
<212> PRT
<213> Homo sapiens

<400> 13

```
Ala Phe Gly Phe Ala Ser Ala Asp Leu Ile Glu Ile Gly Leu Glu Gly
  1               5                  10                  15

Lys Gly Phe Glu Pro Thr Leu Glu Ala Leu Phe Gly Lys Gln Gly Phe
             20                  25                  30

Phe Pro Asp Ser Val Asn Lys Ala Leu Tyr Trp Val Asn Gly Gln Val
         35                  40                  45

Pro Asp
     50
```

<210> 14
<211> 48
<212> PRT
<213> Homo sapiens

<400> 14

```
Leu Tyr Asp Phe Ala Ala Glu Asn Pro Asp Glu Leu Thr Phe Asn Glu
  1               5                  10                  15

Gly Ala Val Val Thr Val Ile Asn Lys Ser Asn Pro Asp Trp Trp Glu
             20                  25                  30

Gly Glu Leu Asn Gly Gln Arg Gly Val Phe Pro Ala Ser Tyr Val Glu
         35                  40                  45
```

<210> 15
<211> 46
<212> PRT

<213> Homo sapiens

<400> 15
Phe Gly Tyr Thr Lys Asp Asp Lys His Glu Gln Asp Met Val Asn Gly
1 5 10 15

Ile Met Leu Ser Val Glu Lys Leu Ile Lys Asp Leu Lys Ser Lys Glu
20 25 30

Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile Leu Gly Glu Glu
35 40 45

<210> 16
<211> 49
<212> PRT
<213> Homo sapiens

<400> 16
Tyr Asp Tyr Lys Lys Glu Glu Glu Asp Ile Asp Leu His Leu Gly Asp
1 5 10 15

Ile Leu Thr Val Asn Lys Gly Ser Leu Val Ala Leu Gly Phe Ser Asp
20 25 30

Gly Gln Glu Ala Lys Pro Glu Glu Ile Gly Trp Leu Asn Gly Tyr Asn
35 40 45

Glu

<210> 17
<211> 52
<212> PRT
<213> Homo sapiens

<400> 17
Phe Asp Tyr His Gln Phe Val Asp Glu Thr Asn Asp Lys Ile Arg Glu
1 5 10 15

Val Thr Gln Arg Leu Asn Gly Glu Ile Gln Ala Leu Glu Leu Pro Gln
20 25 30

Lys Ala Glu Ala Leu Lys Leu Phe Leu Glu Glu Thr Lys Ala Thr Val
35 40 45

Ala Val Tyr Leu

50

<210> 18
<211> 46
<212> PRT
<213> Homo sapiens

<400> 18
Tyr Asp Tyr Gln Glu Lys Ser Pro Arg Glu Val Thr Met Lys Lys Gly
1 5 10 15

Asp Ile Leu Thr Leu Leu Asn Ser Thr Asn Lys Asp Trp Trp Lys Val
20 25 30

Glu Val Asn Asp Arg Gln Gly Phe Val Pro Ala Ala Tyr Val
35 40 45

<210> 19
<211> 51
<212> PRT
<213> Homo sapiens

<400> 19
Tyr Asp Met Asp Ile Gln Gln Glu Leu Gln Arg Tyr Leu Ser Leu Val
1 5 10 15

Gly Gln Val Tyr Ser Thr Leu Val Thr Tyr Ile Ser Asp Trp Trp Thr
20 25 30

Leu Ala Ala Lys Asn Leu Thr Asp Phe Ala Glu Gln Tyr Ser Ile Gln
35 40 45

Asp Trp Ala
50

<210> 20
<211> 51
<212> PRT
<213> Homo sapiens

<400> 20
Phe Asp Tyr Lys Ala Gln Arg Glu Asp Glu Leu Thr Phe Thr Lys Ser
1 5 10 15

Ala Ile Ile Gln Asn Val Glu Lys Gln Asp Gly Gly Trp Trp Arg Gly

```
            20                  25                  30

Asp Tyr Gly Gly Lys Lys Gln Leu Trp Phe Pro Ser Asn Tyr Val Glu
         35                  40                  45

Glu Met Ile
     50
```

<210> 21
<211> 55
<212> PRT
<213> Homo sapiens

<400> 21

```
Tyr Asp Met Asp Ile Gln Gln Glu Leu Gln Arg Tyr Leu Ser Leu Val
  1               5                  10                  15

Gly Gln Val Tyr Ser Thr Leu Val Thr Tyr Ile Ser Asp Trp Trp Thr
             20                  25                  30

Leu Ala Ala Lys Asn Leu Thr Asp Phe Ala Glu Gln Tyr Ser Ile Gln
         35                  40                  45

Asp Trp Ala Lys Arg Met Lys
     50                  55
```

<210> 22
<211> 53
<212> PRT
<213> Homo sapiens

<400> 22

```
Ile Gln Asp Tyr Glu Pro Arg Leu Thr Asp Glu Ile Arg Ile Ser Leu
  1               5                  10                  15

Gly Glu Lys Val Lys Ile Leu Ala Thr His Thr Asp Gly Trp Cys Leu
             20                  25                  30

Val Glu Lys Cys Asn Thr Arg Lys Gly Thr Ile His Val Ser Val Asp
         35                  40                  45

Asp Lys Arg Tyr Leu
     50
```

<210> 23

<211> 49
<212> PRT
<213> Homo sapiens

<400> 23
Tyr Asp Tyr Glu Ala Arg Thr Glu Asp Asp Leu Thr Phe Thr Lys Gly
1 5 10 15

Glu Lys Phe His Ile Leu Asn Asn Thr Glu Gly Asp Trp Trp Glu Ala
20 25 30

Arg Ser Leu Ser Ser Gly Lys Thr Gly Cys Ile Pro Ser Asn Tyr Val
35 40 45

Ala

<210> 24
<211> 45
<212> PRT
<213> Homo sapiens

<400> 24
Thr Tyr Asp Phe Ser Phe Lys Ser Ser Val Ile Thr Leu Asn Thr Asn
1 5 10 15

Ala Glu Leu Phe Asn Gln Ser Asp Ile Val Ala His Leu Leu Ser Ser
20 25 30

Ser Ser Ser Val Ile Asp Ala Leu Gln Tyr Lys Leu Glu
35 40 45

<210> 25
<211> 47
<212> PRT
<213> Homo sapiens

<400> 25
Asp Phe Asn Tyr Pro Ile Lys Lys Asp Ser Ser Ser Gln Leu Leu Ser
1 5 10 15

Val Gln Gln Gly Glu Thr Ile Tyr Ile Leu Asn Lys Asn Ser Ser Gly
20 25 30

Trp Trp Asp Gly Leu Val Ile Asp Asp Ser Asn Gly Lys Val Asn
35 40 45

<210> 26
<211> 49
<212> PRT
<213> Homo sapiens

<400> 26
Lys Tyr Asp Phe Asn Ser Ser Met Leu Tyr Ser Thr Ala Lys Gly Ala
1 5 10 15

Val Asp His Lys Leu Ser Leu Glu Ser Leu Thr Ser Tyr Phe Ser Ile
20 25 30

Glu Ser Ser Thr Lys Gly Asp Val Lys Gly Ser Val Leu Ser Arg Glu
35 40 45

Tyr

<210> 27
<211> 52
<212> PRT
<213> Homo sapiens

<400> 27
Glu Pro Tyr Val Ala Ile Lys Ala Tyr Thr Ala Val Glu Gly Asp Glu
1 5 10 15

Val Ser Leu Leu Glu Gly Glu Ala Val Glu Val Ile His Lys Leu Leu
20 25 30

Asp Gly Trp Trp Val Ile Arg Lys Asp Asp Val Thr Gly Tyr Phe Pro
35 40 45

Ser Met Tyr Leu
50

<210> 28
<211> 54
<212> PRT
<213> Homo sapiens

<400> 28
Leu Trp Asp Phe Leu Lys Leu Asp Val Thr Thr Ser Ile Gly Arg Arg
1 5 10 15

```
Gln His Leu Arg Val Ser Thr Ala Phe Val Tyr Thr Lys Asn Pro Asn
             20                  25                  30

Gly Tyr Ser Phe Ser Ile Pro Val Lys Val Leu Ala Asp Lys Phe Ile
         35                  40                  45

Thr Pro Gly Leu Lys Leu
     50
```

<210> 29
<211> 55
<212> PRT
<213> Homo sapiens

<400> 29

```
Leu Tyr Asp Phe Lys Ala Glu Lys Ala Asp Glu Leu Thr Thr Tyr Val
  1               5                  10                  15

Gly Glu Asn Leu Phe Ile Cys Ala His His Asn Cys Glu Trp Phe Ile
             20                  25                  30

Ala Lys Pro Ile Gly Arg Leu Gly Gly Pro Gly Leu Val Pro Val Gly
         35                  40                  45

Phe Val Ser Ile Ile Asp Ile
     50                  55
```

<210> 30
<211> 47
<212> PRT
<213> Homo sapiens

<400> 30

```
Val Leu Tyr Asp Tyr Val Asn Lys Tyr His Trp Glu His Thr Gly Leu
  1               5                  10                  15

Thr Leu Arg Glu Val Ser Ser Lys Leu Arg Arg Asn Leu Gln Asn Asn
             20                  25                  30

Ala Glu Trp Val Tyr Gln Gly Ala Ile Arg Gln Ile Asp Asp Ile
         35                  40                  45
```

<210> 31
<211> 40

<212> PRT
<213> Homo sapiens

<400> 31
Val Leu Tyr Asp Phe Lys Ala Glu Lys Ala Asp Glu Leu Thr Thr Tyr
1 5 10 15

Val Gly Glu Asn Leu Phe Ile Cys Ala His His Asn Cys Glu Trp Phe
20 25 30

Ile Ala Lys Pro Ile Gly Arg Leu
35 40

<210> 32
<211> 43
<212> PRT
<213> Homo sapiens

<400> 32
Lys Pro Gly Ile Tyr Thr Arg Glu Glu Leu Cys Thr Met Phe Ile Arg
1 5 10 15

Glu Val Gly Thr Val Leu Ser Gln Val Tyr Ser Lys Val His Asn Gly
20 25 30

Ser Glu Ile Leu Phe Ser Tyr Phe Gln Asp Leu
35 40

<210> 33
<211> 52
<212> PRT
<213> Homo sapiens

<400> 33
Leu Phe Gly Phe Val Pro Glu Thr Lys Glu Glu Leu Gln Val Met Pro
1 5 10 15

Gly Asn Ile Val Phe Val Leu Lys Lys Gly Asn Asp Asn Trp Ala Thr
20 25 30

Val Met Phe Asn Gly Gln Lys Gly Leu Val Pro Cys Asn Tyr Leu Glu
35 40 45

Pro Val Glu Leu
50

<210> 34
<211> 43
<212> PRT
<213> Homo sapiens

<400> 34
Gly Lys Pro Gly Ile Tyr Thr Arg Glu Glu Leu Cys Thr Met Phe Ile
1 5 10 15

Arg Glu Val Gly Thr Val Leu Ser Gln Val Tyr Ser Lys Val His Asn
20 25 30

Gly Ser Glu Ile Leu Phe Ser Tyr Phe Gln Asp
35 40

<210> 35
<211> 52
<212> PRT
<213> Homo sapiens

<400> 35
Ala Lys Phe Asp Tyr Val Ala Gln Gln Glu Gln Glu Leu Asp Ile Lys
1 5 10 15

Lys Asn Glu Arg Leu Trp Leu Leu Asp Asp Ser Lys Ser Trp Trp Arg
20 25 30

Val Arg Asn Ser Met Asn Lys Thr Gly Phe Val Pro Ser Asn Tyr Val
35 40 45

Glu Arg Lys Asn
50

<210> 36
<211> 85
<212> PRT
<213> Homo sapiens

<400> 36
Trp Tyr His Ala Ser Leu Thr Arg Ala Gln Ala Glu His Met Leu Met
1 5 10 15

Arg Val Pro Arg Asp Gly Ala Phe Leu Val Arg Lys Arg Asn Glu Pro
20 25 30

```
Asn Ser Tyr Ala Ile Ser Phe Arg Ala Glu Gly Lys Ile Lys His Cys
         35                  40                  45

Arg Val Gln Gln Glu Gly Thr Val Met Leu Gly Asn Ser Glu Phe Asp
     50                  55                  60

Ser Leu Val Asp Leu Ile Ser Tyr Tyr Glu Lys His Pro Leu Tyr Arg
 65                  70                  75                  80

Lys Met Lys Leu Arg
                 85
```

<210> 37
<211> 106
<212> PRT
<213> Homo sapiens

<400> 37

```
Phe Phe Gly Glu Gly Thr Lys Lys Met Gly Leu Ala Phe Glu Ser Thr
  1               5                  10                  15

Lys Ser Thr Ser Pro Pro Lys Gln Ala Glu Ala Val Leu Lys Thr Leu
             20                  25                  30

Gln Glu Leu Lys Lys Leu Thr Ile Ser Glu Gln Asn Ile Gln Arg Ala
         35                  40                  45

Asn Leu Phe Asn Lys Leu Val Thr Glu Leu Arg Gly Leu Ser Asp Glu
     50                  55                  60

Ala Val Thr Ser Leu Leu Pro Gln Leu Ile Glu Val Ser Ser Pro Ile
 65                  70                  75                  80

Thr Leu Gln Ala Leu Val Gln Cys Gly Gln Pro Cys Ser Thr His Ile
                 85                  90                  95

Leu Gln Trp Leu Lys Arg Val His Ala Asn
            100                 105
```

<210> 38
<211> 91
<212> PRT
<213> Homo sapiens

<400> 38

```
Trp Phe His Gly Lys Ile Ser Lys Gln Glu Ala Tyr Asn Leu Leu Met
```

```
  1               5                  10                  15

Thr Val Gly Gln Ala Cys Ser Phe Leu Val Arg Pro Ser Asp Asn Thr
             20                  25                  30

Pro Gly Asp Tyr Ser Leu Tyr Phe Arg Thr Ser Glu Asn Ile Gln Arg
         35                  40                  45

Phe Lys Ile Cys Pro Thr Pro Asn Asn Gln Phe Met Met Gly Gly Arg
     50                  55                  60

Tyr Tyr Asn Ser Ser Ile Gly Asp Ile Ile Asp His Tyr Arg Lys Glu
 65                  70                  75                  80

Gln Ile Val Glu Gly Tyr Tyr Leu Lys Glu Pro
                 85                  90
```

<210> 39
<211> 93
<212> PRT
<213> Homo sapiens

<400> 39

```
Ile Met Leu Ser Val Glu Lys Leu Ile Lys Asp Leu Lys Ser Lys Glu
  1               5                  10                  15

Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile Leu Gly Glu Glu Leu Gly
             20                  25                  30

Phe Ala Ser Leu His Asp Leu Gln Leu Leu Gly Lys Leu Leu Leu Met
         35                  40                  45

Gly Ala Arg Thr Leu Gln Gly Ile Pro Gln Met Ile Gly Glu Val Ile
     50                  55                  60

Arg Lys Gly Ser Lys Asn Asp Phe Phe Leu His Tyr Ile Phe Met Glu
 65                  70                  75                  80

Asn Ala Phe Glu Leu Pro Thr Gly Ala Gly Leu Gln Leu
                 85                  90
```

<210> 40
<211> 89
<212> PRT
<213> Homo sapiens

<400> 40
Trp Phe His Gly Lys Ile Ser Lys Gln Glu Ala Tyr Asn Leu Leu Met
1 5 10 15

Thr Val Gly Gln Ala Cys Ser Phe Leu Val Arg Pro Ser Asp Asn Thr
20 25 30

Pro Gly Asp Tyr Ser Leu Tyr Phe Arg Thr Ser Glu Asn Ile Gln Arg
35 40 45

Phe Lys Ile Cys Pro Thr Pro Asn Asn Gln Phe Met Met Gly Gly Arg
50 55 60

Tyr Tyr Asn Ser Ser Ile Gly Asp Ile Ile Asp His Tyr Arg Lys Glu
65 70 75 80

Gln Ile Val Glu Gly Tyr Tyr Leu Lys
85

<210> 41
<211> 77
<212> PRT
<213> Homo sapiens

<400> 41
Tyr Phe His Lys Leu Asn Ile Pro Lys Leu Asp Phe Ser Ser Gln Ala
1 5 10 15

Asp Leu Arg Asn Glu Ile Lys Thr Leu Leu Lys Ala Gly His Ile Ala
20 25 30

Trp Thr Ser Ser Gly Lys Gly Ser Trp Lys Trp Ala Cys Pro Arg Phe
35 40 45

Ser Asp Glu Gly Thr His Glu Ser Gln Ile Ser Phe Thr Ile Glu Gly
50 55 60

Pro Leu Thr Ser Phe Gly Leu Ser Asn Lys Ile Asn Ser
65 70 75

<210> 42
<211> 98
<212> PRT
<213> Homo sapiens

<400> 42

```
Trp Tyr Trp Gly Asp Ile Ser Arg Glu Glu Val Asn Glu Lys Leu Arg
  1               5                  10                  15

Asp Thr Pro Asp Gly Thr Phe Leu Val Arg Asp Ala Ser Ser Lys Ile
             20                  25                  30

Gln Gly Asp Tyr Leu Thr Leu Arg Lys Gly Gly Asn Asn Lys Leu Ile
         35                  40                  45

Lys Val Phe His Arg Asp Gly Lys Tyr Gly Phe Ser Glu Pro Leu Thr
     50                  55                  60

Phe Cys Ser Val Val Asp Leu Ile Thr His Tyr Arg His Gly Ser Leu
 65                  70                  75                  80

Ala Gln Tyr Asn Ala Lys Leu Asp Thr Arg Leu Leu Tyr Pro Val Ser
                 85                  90                  95

Lys Tyr
```

<210> 43
<211> 100
<212> PRT
<213> Homo sapiens

<400> 43

```
Phe Phe Ser Ala Gln Pro Phe Glu Ile Thr Ala Ser Thr Asn Asn Glu
  1               5                  10                  15

Gly Asn Leu Lys Val Arg Phe Pro Leu Arg Leu Thr Gly Lys Ile Asp
             20                  25                  30

Phe Leu Asn Asn Tyr Ala Leu Phe Leu Ser Pro Ser Ala Gln Gln Ala
         35                  40                  45

Ser Trp Gln Val Ser Ala Arg Phe Asn Gln Tyr Lys Tyr Asn Gln Asn
     50                  55                  60

Phe Ser Ala Gly Asn Asn Glu Asn Ile Met Glu Ala His Val Gly Ile
 65                  70                  75                  80

Asn Gly Glu Ala Asn Leu Asp Phe Leu Asn Ile Pro Leu Thr Ile Pro
                 85                  90                  95

Glu Met Arg Leu
            100
```

<210> 44
<211> 106
<212> PRT
<213> Homo sapiens

<400> 44
Trp Phe His Gly Lys Leu Gly Ala Gly Arg Asp Gly Arg His Ile Ala
1 5 10 15

Glu Arg Leu Leu Thr Glu Tyr Cys Ile Glu Thr Gly Ala Pro Asp Gly
20 25 30

Ser Phe Leu Val Arg Glu Ser Glu Thr Phe Val Gly Asp Tyr Thr Leu
35 40 45

Ser Phe Trp Arg Asn Gly Lys Val Gln His Cys Arg Ile His Ser Arg
50 55 60

Gln Asp Ala Gly Thr Pro Lys Phe Phe Leu Thr Asp Asn Leu Val Phe
65 70 75 80

Asp Ser Leu Tyr Asp Leu Ile Thr His Tyr Gln Gln Val Pro Leu Arg
85 90 95

Cys Asn Glu Phe Glu Met Arg Leu Ser Glu
100 105

<210> 45
<211> 91
<212> PRT
<213> Homo sapiens

<400> 45
Phe Pro Gly Lys Pro Gly Ile Tyr Thr Arg Glu Glu Leu Cys Thr Met
1 5 10 15

Phe Ile Arg Glu Val Gly Thr Val Leu Ser Gln Val Tyr Ser Lys Val
20 25 30

His Asn Gly Ser Glu Ile Leu Phe Ser Tyr Phe Gln Asp Leu Val Ile
35 40 45

Thr Leu Pro Phe Glu Leu Arg Lys His Lys Leu Ile Asp Val Ile Ser
50 55 60

```
Met Tyr Arg Glu Leu Leu Lys Asp Leu Ser Lys Glu Ala Gln Glu Val
 65                  70                  75                  80

Phe Lys Ala Ile Gln Ser Leu Lys Thr Thr Glu
                 85                  90
```

<210> 46
<211> 203
<212> PRT
<213> Homo sapiens

<400> 46

```
Val Ser Asp Gly Ile Ala Ala Leu Asp Leu Asn Ala Val Ala Asn Lys
  1               5                  10                  15

Ile Ala Asp Phe Glu Leu Pro Thr Ile Ile Val Pro Glu Gln Thr Ile
             20                  25                  30

Glu Ile Pro Ser Ile Lys Phe Ser Val Pro Ala Gly Ile Val Ile Pro
         35                  40                  45

Ser Phe Gln Ala Leu Thr Ala Arg Phe Glu Val Asp Ser Pro Val Tyr
     50                  55                  60

Asn Ala Thr Trp Ser Ala Ser Leu Lys Asn Lys Ala Asp Tyr Val Glu
 65                  70                  75                  80

Thr Val Leu Asp Ser Thr Cys Ser Ser Thr Val Gln Phe Leu Glu Tyr
                 85                  90                  95

Glu Leu Asn Val Leu Gly Thr His Lys Ile Glu Asp Gly Thr Leu Ala
            100                 105                 110

Ser Lys Thr Lys Gly Thr Leu Ala His Arg Asp Phe Ser Ala Glu Tyr
        115                 120                 125

Glu Glu Asp Gly Lys Phe Glu Gly Leu Gln Glu Trp Glu Gly Lys Ala
    130                 135                 140

His Leu Asn Ile Lys Ser Pro Ala Phe Thr Asp Leu His Leu Arg Tyr
145                 150                 155                 160

Gln Lys Asp Lys Lys Gly Ile Ser Thr Ser Ala Ala Ser Pro Ala Val
                165                 170                 175

Gly Thr Val Gly Met Asp Met Asp Glu Asp Asp Asp Phe Ser Lys Trp
            180                 185                 190
```

```
Asn Phe Tyr Tyr Ser Pro Gln Ser Ser Pro Asp
        195                 200
```

<210> 47
<211> 214
<212> PRT
<213> Homo sapiens

<400> 47

```
Leu Gly Gln Gly Cys Phe Gly Glu Val Trp Met Gly Thr Trp Asn Gly
  1               5                  10                  15

Thr Thr Arg Val Ala Ile Lys Thr Leu Lys Pro Gly Thr Met Ser Pro
             20                  25                  30

Glu Ala Phe Leu Gln Glu Ala Gln Val Met Lys Lys Leu Arg His Glu
         35                  40                  45

Lys Leu Val Gln Leu Tyr Ala Val Val Ser Glu Glu Pro Ile Tyr Ile
     50                  55                  60

Val Thr Glu Tyr Met Ser Lys Gly Ser Leu Leu Asp Phe Leu Lys Gly
 65                  70                  75                  80

Glu Thr Gly Lys Tyr Leu Arg Leu Pro Gln Leu Val Asp Met Ala Ala
                 85                  90                  95

Gln Ile Ala Ser Gly Met Ala Tyr Val Glu Arg Met Asn Tyr Val His
            100                 105                 110

Arg Asp Leu Arg Ala Ala Asn Ile Leu Val Gly Glu Asn Leu Val Cys
        115                 120                 125

Lys Val Ala Asp Phe Gly Leu Ala Arg Leu Ile Glu Asp Asn Glu Tyr
    130                 135                 140

Thr Ala Arg Gln Gly Ala Lys Phe Pro Ile Lys Trp Thr Ala Pro Glu
145                 150                 155                 160

Ala Ala Leu Tyr Gly Arg Phe Thr Ile Lys Ser Asp Val Trp Ser Phe
                165                 170                 175

Gly Ile Leu Leu Thr Glu Leu Thr Thr Lys Gly Arg Val Pro Tyr Pro
            180                 185                 190

Gly Met Val Asn Arg Glu Val Leu Asp Gln Val Glu Arg Gly Tyr Arg
```

```
        195                 200                 205

Met Pro Cys Pro Pro Glu
    210
```

<210> 48
<211> 213
<212> PRT
<213> Homo sapiens

<400> 48

```
Leu Gly Asn Gly Gln Phe Gly Glu Val Trp Met Gly Thr Trp Asn Gly
  1               5                  10                  15

Asn Thr Lys Val Ala Ile Lys Thr Leu Lys Pro Gly Thr Met Ser Pro
             20                  25                  30

Glu Ser Phe Leu Glu Glu Ala Gln Ile Met Lys Lys Leu Lys His Asp
         35                  40                  45

Lys Leu Val Gln Leu Tyr Ala Val Val Ser Glu Glu Pro Ile Tyr Ile
     50                  55                  60

Val Thr Glu Tyr Met Asn Lys Gly Ser Leu Leu Asp Phe Leu Lys Asp
 65                  70                  75                  80

Gly Glu Gly Arg Ala Leu Lys Leu Pro Asn Leu Val Asp Met Ala Ala
                 85                  90                  95

Gln Val Ala Ala Gly Met Ala Tyr Ile Glu Arg Met Asn Tyr Ile His
            100                 105                 110

Arg Asp Leu Arg Ser Ala Asn Ile Leu Val Gly Asn Gly Leu Ile Cys
        115                 120                 125

Lys Ile Ala Asp Phe Gly Leu Ala Arg Leu Ile Glu Asp Asn Glu Tyr
    130                 135                 140

Thr Ala Arg Gln Gly Ala Lys Phe Pro Ile Lys Trp Thr Ala Pro Glu
145                 150                 155                 160

Ala Ala Leu Tyr Gly Arg Phe Thr Ile Lys Ser Asp Val Trp Ser Phe
                165                 170                 175

Gly Ile Leu Leu Thr Glu Leu Val Thr Lys Gly Arg Val Pro Tyr Pro
            180                 185                 190
```

```
Gly Met Asn Asn Arg Glu Val Leu Glu Gln Val Glu Arg Gly Tyr Arg
        195                 200                 205

Met Pro Cys Pro Gln
    210
```

<210> 49
<211> 213
<212> PRT
<213> Homo sapiens

<400> 49

```
Leu Gly Ala Gly Gln Phe Gly Glu Val Trp Met Ala Thr Tyr Asn Lys
  1               5                  10                  15

His Thr Lys Val Ala Val Lys Thr Met Lys Pro Gly Ser Met Ser Val
             20                  25                  30

Glu Ala Phe Leu Ala Glu Ala Asn Val Met Lys Thr Leu Gln His Asp
         35                  40                  45

Lys Leu Val Lys Leu His Ala Val Val Thr Lys Glu Pro Ile Tyr Ile
     50                  55                  60

Ile Thr Glu Phe Met Ala Lys Gly Ser Leu Leu Asp Phe Leu Lys Ser
 65                  70                  75                  80

Asp Glu Gly Ser Lys Gln Pro Leu Pro Lys Leu Ile Asp Phe Ser Ala
                 85                  90                  95

Gln Ile Ala Glu Gly Met Ala Phe Ile Glu Gln Arg Asn Tyr Ile His
            100                 105                 110

Arg Asp Leu Arg Ala Ala Asn Ile Leu Val Ser Ala Ser Leu Val Cys
        115                 120                 125

Lys Ile Ala Asp Phe Gly Leu Ala Arg Val Ile Glu Asp Asn Glu Tyr
    130                 135                 140

Thr Ala Arg Glu Gly Ala Lys Phe Pro Ile Lys Trp Thr Ala Pro Glu
145                 150                 155                 160

Ala Ile Asn Phe Gly Ser Phe Thr Ile Lys Ser Asp Val Trp Ser Phe
                165                 170                 175

Gly Ile Leu Leu Met Glu Ile Val Thr Tyr Gly Arg Ile Pro Tyr Pro
            180                 185                 190
```

```
Gly Met Ser Asn Pro Glu Val Ile Arg Ala Leu Glu Arg Gly Tyr Arg
        195                 200                 205

Met Pro Arg Pro Glu
    210
```

<210> 50
<211> 218
<212> PRT
<213> Homo sapiens

<400> 50

```
Leu Gly Ala Gly Gln Phe Gly Glu Val Trp Met Gly Tyr Tyr Asn Asn
  1               5                  10                  15

Ser Thr Lys Val Ala Val Lys Thr Leu Lys Pro Gly Thr Met Ser Val
             20                  25                  30

Gln Ala Phe Leu Glu Glu Ala Asn Leu Met Lys Thr Leu Gln His Asp
         35                  40                  45

Lys Leu Val Arg Leu Tyr Ala Val Val Thr Arg Glu Glu Pro Ile Tyr
     50                  55                  60

Ile Ile Thr Glu Tyr Met Ala Lys Gly Ser Leu Leu Asp Phe Leu Lys
 65                  70                  75                  80

Ser Asp Glu Gly Gly Lys Val Leu Leu Pro Lys Leu Ile Asp Phe Ser
                 85                  90                  95

Ala Gln Ile Ala Glu Gly Met Ala Tyr Ile Glu Arg Lys Asn Tyr Ile
            100                 105                 110

His Arg Asp Leu Arg Ala Ala Asn Val Leu Val Ser Glu Ser Leu Met
        115                 120                 125

Cys Lys Ile Ala Asp Phe Gly Leu Ala Arg Val Ile Glu Asp Asn Glu
    130                 135                 140

Tyr Thr Ala Arg Glu Gly Ala Lys Phe Pro Ile Lys Trp Thr Ala Pro
145                 150                 155                 160

Glu Ala Ile Asn Phe Gly Cys Phe Thr Ile Lys Ser Asp Val Trp Ser
                165                 170                 175

Phe Gly Ile Leu Leu Tyr Glu Ile Val Thr Tyr Gly Lys Ile Pro Tyr
```

```
            180                 185                 190

Pro Gly Arg Thr Asn Ala Asp Val Met Thr Ala Leu Ser Gln Gly Tyr
        195                 200                 205

Arg Met Pro Arg Val Glu Asn Cys Pro Asp
    210                 215
```

<210> 51
<211> 213
<212> PRT
<213> Homo sapiens

<400> 51

```
Leu Gly Ala Gly Gln Phe Gly Glu Val Trp Met Gly Tyr Tyr Asn Gly
  1               5                  10                  15

His Thr Lys Val Ala Val Lys Ser Leu Lys Gln Gly Ser Met Ser Pro
             20                  25                  30

Asp Ala Phe Leu Ala Glu Ala Asn Leu Met Lys Gln Leu Gln His Gln
         35                  40                  45

Arg Leu Val Arg Leu Tyr Ala Val Val Thr Gln Glu Pro Ile Tyr Ile
     50                  55                  60

Ile Thr Glu Tyr Met Glu Asn Gly Ser Leu Val Asp Phe Leu Lys Thr
 65                  70                  75                  80

Pro Ser Gly Ile Lys Leu Thr Ile Asn Lys Leu Leu Asp Met Ala Ala
                 85                  90                  95

Gln Ile Ala Glu Gly Met Ala Phe Ile Glu Glu Arg Asn Tyr Ile His
            100                 105                 110

Arg Asp Leu Arg Ala Ala Asn Ile Leu Val Ser Asp Thr Leu Ser Cys
        115                 120                 125

Lys Ile Ala Asp Phe Gly Leu Ala Arg Leu Ile Glu Asp Asn Glu Tyr
    130                 135                 140

Thr Ala Arg Glu Gly Ala Lys Phe Pro Ile Lys Trp Thr Ala Pro Glu
145                 150                 155                 160

Ala Ile Asn Tyr Gly Thr Phe Thr Ile Lys Ser Asp Val Trp Ser Phe
                165                 170                 175
```

```
Gly Ile Leu Leu Thr Glu Ile Val Thr His Gly Arg Ile Pro Tyr Pro
            180                 185                 190

Gly Met Thr Asn Pro Glu Val Ile Gln Asn Leu Glu Arg Gly Tyr Arg
        195                 200                 205

Met Val Arg Pro Asp
    210
```

<210> 52
<211> 13
<212> PRT
<213> Homo sapiens

<400> 52
```
Arg Lys Asn Tyr Ile His Arg Asp Leu Arg Ala Ala Asn
  1               5                  10
```

<210> 53
<211> 12
<212> PRT
<213> Homo sapiens

<400> 53
```
Lys Gly Thr Leu Ala His Arg Asp Phe Ser Ala Glu
  1               5                  10
```

<210> 54
<211> 11
<212> PRT
<213> Homo sapiens

<400> 54
```
Thr Lys Val Ala Val Lys Thr Leu Lys Pro Gly
  1               5                  10
```

<210> 55
<211> 11
<212> PRT
<213> Homo sapiens

<400> 55
```
Asp Lys Val Ala Ile Lys Thr Ile Arg Glu Gly
  1               5                  10
```

<210> 56
<211> 11
<212> PRT
<213> Homo sapiens

<400> 56
Asp Leu Asn Ala Val Ala Asn Lys Ile Ala Asp
1 5 10

<210> 57
<211> 34
<212> PRT
<213> Homo sapiens

<400> 57
Thr Ser Leu Arg Ala Pro Thr Met Pro Pro Pro Leu Pro Pro Val Pro
1 5 10 15

Pro Gln Pro Ala Arg Arg Gln Ser Arg Arg Leu Pro Ala Ser Pro Val
20 25 30

Ile Ser

<210> 58
<211> 36
<212> PRT
<213> Homo sapiens

<400> 58
Ser Asp Ala Glu Gly Thr Ala Val Ala Pro Pro Thr Val Thr Pro Val
1 5 10 15

Pro Ser Leu Glu Ala Pro Ser Glu Gln Ala Pro Thr Glu Gln Arg Pro
20 25 30

Gly Val Gln Glu
35

<210> 59
<211> 36
<212> PRT
<213> Homo sapiens

<400> 59
Ser Asp Ala Glu Gly Thr Ala Val Ala Pro Pro Thr Ile Thr Pro Ile
1 5 10 15

Pro Ser Leu Glu Ala Pro Ser Glu Gln Ala Pro Thr Glu Gln Arg Pro
20 25 30

Gly Val Gln Glu
35

<210> 60
<211> 36
<212> PRT
<213> Homo sapiens

<400> 60
Ser Asp Ala Glu Trp Thr Ala Phe Val Pro Pro Asn Val Ile Leu Ala
1 5 10 15

Pro Ser Leu Glu Ala Phe Phe Glu Gln Ala Leu Thr Glu Glu Thr Pro
20 25 30

Gly Val Gln Asp
35

<210> 61
<211> 36
<212> PRT
<213> Homo sapiens

<400> 61
Leu Val Thr Glu Ser Ser Val Leu Ala Thr Leu Thr Val Val Pro Asp
1 5 10 15

Pro Ser Thr Glu Ala Ser Ser Glu Glu Ala Pro Thr Glu Gln Ser Pro
20 25 30

Gly Val Gln Asp
35

<210> 62
<211> 36
<212> PRT
<213> Homo sapiens

<400> 62
Pro Val Met Glu Ser Thr Leu Leu Thr Thr Pro Thr Val Val Pro Val
1 5 10 15

Pro Ser Thr Glu Leu Pro Ser Glu Glu Ala Pro Thr Glu Asn Ser Thr
20 25 30

Gly Val Gln Asp
35

<210> 63
<211> 36
<212> PRT
<213> Homo sapiens

<400> 63
Pro Val Thr Glu Ser Ser Val Leu Thr Thr Pro Thr Val Ala Pro Val
1 5 10 15

Pro Ser Thr Glu Ala Pro Ser Glu Gln Ala Pro Pro Glu Lys Ser Pro
20 25 30

Val Val Gln Asp
35

<210> 64
<211> 37
<212> PRT
<213> Homo sapiens

<400> 64
Ser Gly Thr Glu Ser Gly Val Leu Glu Thr Pro Thr Val Val Pro Glu
1 5 10 15

Pro Ser Met Glu Ala His Ser Glu Ala Ala Pro Thr Glu Gln Thr Pro
20 25 30

Val Val Arg Arg Gln
35

<210> 65
<211> 37
<212> PRT
<213> Homo sapiens

<400> 65
Pro Lys Asp Ala Thr Arg Phe Lys His Leu Arg Lys Tyr Thr Tyr Asn
1 5 10 15

Tyr Glu Ala Glu Ser Ser Ser Gly Val Pro Gly Thr Ala Asp Ser Arg
20 25 30

Ser Ala Thr Arg Ile
35

<210> 66
<211> 37
<212> PRT
<213> Homo sapiens

<400> 66
Pro Lys Asp Ala Thr Arg Phe Lys His Leu Arg Lys Tyr Thr Tyr Asn
1 5 10 15

Tyr Glu Ala Glu Ser Ser Ser Gly Val Pro Gly Thr Ala Asp Ser Arg
20 25 30

Ser Ala Thr Arg Ile
35

<210> 67
<211> 34
<212> PRT
<213> Homo sapiens

<400> 67
Pro Lys Asp Ala Ser Gln Arg Arg Arg Ser Leu Glu Pro Ala Glu Asn
1 5 10 15

Val His Gly Ala Gly Gly Gly Ala Phe Pro Ala Ser Gln Thr Pro Ser
20 25 30

Lys Pro

<210> 68
<211> 32
<212> PRT
<213> Homo sapiens

<400> 68
Asp Lys Glu Ala Thr Lys Leu Thr Glu Glu Arg Asp Gly Ser Leu Asn
1 5 10 15

Gln Ser Ser Gly Tyr Arg Tyr Gly Thr Asp Pro Thr Pro Gln His Tyr
20 25 30

<210> 69
<211> 39
<212> PRT
<213> Homo sapiens

<400> 69
Ile Gln Asn Tyr His Thr Phe Leu Ile Tyr Ile Thr Glu Leu Leu Lys
1 5 10 15

Lys Leu Gln Ser Thr Thr Val Met Asn Pro Tyr Met Lys Leu Ala Pro
20 25 30

Gly Glu Leu Thr Ile Ile Leu
35

<210> 70
<211> 31
<212> PRT
<213> Homo sapiens

<400> 70
Pro Glu Glu Arg Pro Thr Phe Glu Tyr Leu Gln Ala Phe Leu Glu Asp
1 5 10 15

Tyr Phe Thr Ser Thr Glu Pro Gln Tyr Gln Pro Gly Glu Asn Leu
20 25 30

<210> 71
<211> 31
<212> PRT
<213> Homo sapiens

<400> 71
Pro Glu Glu Arg Pro Thr Phe Glu Tyr Leu Gln Ser Phe Leu Glu Asp

1 5 10 15

Tyr Phe Thr Ala Thr Glu Pro Gln Tyr Gln Pro Gly Glu Asn Leu
20 25 30

<210> 72
<211> 29
<212> PRT
<213> Homo sapiens

<400> 72
Pro Glu Glu Arg Pro Thr Phe Glu Tyr Ile Gln Ser Val Leu Asp Asp
1 5 10 15

Phe Tyr Thr Ala Thr Glu Ser Gln Tyr Gln Gln Gln Pro
20 25

<210> 73
<211> 29
<212> PRT
<213> Homo sapiens

<400> 73
Ala Glu Glu Arg Pro Thr Phe Asp Tyr Leu Gln Ser Val Leu Asp Asp
1 5 10 15

Phe Tyr Thr Ala Thr Glu Gly Gln Tyr Gln Gln Gln Pro
20 25

<210> 74
<211> 29
<212> PRT
<213> Homo sapiens

<400> 74
Pro Glu Asp Arg Pro Thr Phe Asp Tyr Leu Arg Ser Val Leu Glu Asp
1 5 10 15

Phe Phe Thr Ala Thr Glu Gly Gln Tyr Gln Pro Gln Pro
20 25

<210> 75
<211> 6
<212> PRT

<213> Homo sapiens

<220>
<221> MOD_RES
<222> (2)..(5)
<223> x = can be any naturally occurring amino acid

<400> 75
Pro Xaa Xaa Xaa Xaa Pro
1 5

<210> 76
<211> 40
<212> PRT
<213> Homo sapiens

<400> 76
Pro Asp Phe Arg Leu Pro Glu Ile Ala Ile Pro Glu Phe Ile Ile Pro
1 5 10 15

Thr Leu Asn Leu Asn Asp Phe Gln Val Pro Asp Leu His Ile Pro Glu
20 25 30

Phe Gln Leu Pro His Ile Ser His
35 40

<210> 77
<211> 22
<212> PRT
<213> Homo sapiens

<400> 77
Pro Gln Asn Ala Lys Leu Lys Ile Lys Arg Pro Val Lys Val Gln Pro
1 5 10 15

Ile Ala Arg Val Trp Tyr
20

<210> 78
<211> 22
<212> PRT
<213> Homo sapiens

<400> 78
Pro Asp Phe Arg Leu Pro Glu Ile Ala Ile Pro Glu Phe Ile Ile Pro

```
  1               5                   10                  15

Thr Leu Asn Leu Asn Asp
             20
```

<210> 79
<211> 22
<212> PRT
<213> Homo sapiens

<400> 79

```
Asn Asp Phe Gln Val Pro Asp Leu His Ile Pro Glu Phe Gln Leu Pro
  1               5                   10                  15

His Ile Ser His Thr Ile
             20
```

<210> 80
<211> 22
<212> PRT
<213> Homo sapiens

<400> 80

```
Pro Ser Leu Glu Leu Pro Val Leu His Val Pro Arg Asn Leu Lys Leu
  1               5                   10                  15

Ser Leu Pro His Phe Lys
             20
```

<210> 81
<211> 379
<212> PRT
<213> Homo sapiens

<400> 81

```
Met Ala Ser Gly Arg Ala Arg Cys Thr Arg Lys Leu Arg Asn Trp Val
  1               5                   10                  15

Val Glu Gln Val Glu Ser Gly Gln Phe Pro Gly Val Cys Trp Asp Asp
             20                  25                  30

Thr Ala Lys Thr Met Phe Arg Ile Pro Trp Lys His Ala Gly Lys Gln
         35                  40                  45

Asp Phe Arg Glu Ser Gln Asp Ala Ala Phe Phe Lys Ala Trp Ala Ile
```

```
     50                  55                  60

Phe Lys Gly Lys Tyr Lys Glu Gly Asp Lys Glu Val Pro Glu Arg Gly
 65                  70                  75                  80

Arg Met Asp Val Ala Glu Pro Tyr Lys Val Tyr Gln Leu Leu Pro Pro
                 85                  90                  95

Gly Ile Val Ser Gly Gln Pro Gly Thr Gln Lys Val Pro Ser Lys Arg
            100                 105                 110

Gln His Ser Ser Val Ser Ser Glu Arg Lys Glu Glu Asp Ala Met Gln
        115                 120                 125

Asn Cys Thr Leu Ser Pro Ser Val Leu Gln Asp Ser Leu Asn Asn Glu
    130                 135                 140

Glu Gly Ala Ser Gly Gly Ala Val His Ser Asp Ile Gly Ser Ser Ser
145                 150                 155                 160

Ser Ser Ser Ser Pro Glu Pro Gln Glu Val Thr Asp Thr Thr Glu Ala
                165                 170                 175

Pro Phe Gln Gly Asp Gln Arg Ser Leu Glu Phe Leu Leu Pro Pro Glu
            180                 185                 190

Pro Asp Tyr Ser Leu Leu Leu Thr Phe Ile Tyr Asn Gly Arg Val Val
        195                 200                 205

Gly Glu Ala Gln Val Gln Ser Leu Asp Cys Arg Leu Val Ala Glu Pro
    210                 215                 220

Ser Gly Ser Glu Ser Ser Met Glu Gln Val Leu Phe Pro Lys Pro Gly
225                 230                 235                 240

Pro Glu Pro Thr Gln Arg Leu Leu Ser Gln Leu Glu Arg Gly Ile Leu
                245                 250                 255

Val Ala Ser Asn Pro Arg Gly Leu Phe Val Gln Arg Leu Cys Pro Ile
            260                 265                 270

Pro Ile Ser Trp Asn Ala Pro Gln Ala Pro Pro Gly Pro Gly Pro His
        275                 280                 285

Leu Leu Pro Ser Asn Glu Cys Val Glu Leu Phe Arg Thr Ala Tyr Phe
    290                 295                 300

Cys Arg Asp Leu Val Arg Tyr Phe Gln Gly Leu Gly Pro Pro Pro Lys
```

305 310 315 320

Phe Gln Val Thr Leu Asn Phe Trp Glu Glu Ser His Gly Ser Ser His
325 330 335

Thr Pro Gln Asn Leu Ile Thr Val Lys Met Glu Gln Ala Phe Ala Arg
340 345 350

Tyr Leu Lys Met Glu Gln Ala Phe Ala Arg Tyr Leu Leu Glu Gln Thr
355 360 365

Pro Glu Gln Gln Ala Ala Ile Leu Ser Leu Val
370 375

<210> 82
<211> 383
<212> PRT
<213> Homo sapiens

<400> 82
Val Ser Leu Val Cys Pro Lys Asp Ala Thr Arg Phe Lys His Leu Arg
1 5 10 15

Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu Ser Ser Ser Gly Val Pro Gly
20 25 30

Thr Ala Asp Ser Arg Ser Ala Thr Arg Ile Asn Cys Lys Val Glu Leu
35 40 45

Glu Val Pro Gln Leu Cys Ser Phe Ile Leu Lys Thr Ser Gln Cys Thr
50 55 60

Leu Lys Glu Val Tyr Gly Phe Asn Pro Glu Gly Lys Ala Leu Leu Lys
65 70 75 80

Lys Thr Lys Asn Ser Glu Glu Phe Ala Ala Ala Met Ser Arg Tyr Glu
85 90 95

Leu Lys Leu Ala Ile Pro Glu Gly Lys Gln Val Phe Leu Tyr Pro Glu
100 105 110

Lys Asp Glu Pro Thr Tyr Ile Leu Asn Ile Lys Arg Gly Ile Ile Ser
115 120 125

Ala Leu Leu Val Pro Pro Glu Thr Glu Glu Ala Lys Gln Val Leu Phe
130 135 140

```
Leu Asp Thr Val Tyr Gly Asn Cys Ser Thr His Phe Thr Val Lys Thr
145                 150                 155                 160

Arg Lys Gly Asn Val Ala Thr Glu Ile Ser Thr Glu Arg Asp Leu Gly
                165                 170                 175

Gln Cys Asp Arg Phe Lys Pro Ile Arg Thr Gly Ile Ser Pro Leu Ala
            180                 185                 190

Leu Ile Lys Gly Met Thr Arg Pro Leu Ser Thr Leu Ile Ser Ser Ser
        195                 200                 205

Gln Ser Cys Gln Tyr Thr Leu Asp Ala Lys Arg Lys His Val Ala Glu
    210                 215                 220

Ala Ile Cys Lys Glu Gln His Leu Phe Leu Pro Phe Ser Tyr Lys Asn
225                 230                 235                 240

Lys Tyr Gly Met Val Ala Gln Val Thr Gln Thr Leu Lys Leu Glu Asp
                245                 250                 255

Thr Pro Lys Ile Asn Ser Arg Phe Phe Gly Glu Gly Thr Lys Lys Met
            260                 265                 270

Gly Leu Ala Phe Glu Ser Thr Lys Ser Thr Ser Pro Pro Lys Gln Ala
        275                 280                 285

Glu Ala Val Leu Lys Thr Leu Gln Glu Leu Lys Lys Leu Thr Ile Ser
    290                 295                 300

Glu Gln Asn Ile Gln Arg Ala Asn Leu Phe Asn Lys Leu Val Thr Glu
305                 310                 315                 320

Leu Arg Gly Leu Ser Asp Glu Ala Val Thr Ser Leu Leu Pro Gln Leu
                325                 330                 335

Ile Glu Val Ser Ser Pro Ile Thr Leu Gln Ala Leu Val Gln Cys Gly
            340                 345                 350

Gln Pro Gln Cys Ser Thr His Ile Leu Lys Arg Val His Ala Asn Pro
        355                 360                 365

Leu Leu Ile Asp Val Val Thr Tyr Leu Val Ala Leu Ile Pro Glu
    370                 375                 380
```

<210> 83
<211> 394

<212> PRT
<213> Homo sapiens

<400> 83

```
Phe Gly Leu Ser Asn Lys Ile Asn Ser Lys His Leu Arg Val Asn Gln
  1               5                  10                  15

Asn Leu Val Tyr Glu Ser Gly Ser Leu Asn Phe Ser Lys Leu Glu Ile
             20                  25                  30

Gln Ser Gln Val Asp Ser Gln His Val Gly His Ser Val Leu Thr Ala
         35                  40                  45

Lys Gly Met Ala Leu Phe Gly Glu Gly Lys Ala Glu Phe Thr Gly Arg
     50                  55                  60

His Asp Ala His Leu Asn Gly Lys Val Ile Gly Thr Leu Lys Asn Ser
 65                  70                  75                  80

Leu Phe Phe Ser Ala Gln Pro Phe Glu Ile Thr Ala Ser Thr Asn Asn
                 85                  90                  95

Glu Gly Asn Leu Lys Val Arg Phe Pro Leu Arg Leu Thr Gly Lys Ile
            100                 105                 110

Asp Phe Leu Asn Asn Tyr Ala Leu Phe Leu Ser Pro Ser Ala Gln Gln
        115                 120                 125

Ala Ser Trp Gln Val Ser Ala Arg Phe Asn Gln Tyr Lys Tyr Asn Gln
    130                 135                 140

Asn Phe Ser Ala Gly Asn Asn Glu Asn Ile Met Glu Ala His Val Gly
145                 150                 155                 160

Ile Asn Gly Glu Ala Asn Leu Asp Phe Leu Asn Ile Pro Leu Thr Ile
                165                 170                 175

Pro Glu Met Arg Leu Pro Tyr Thr Ile Ile Thr Thr Pro Pro Leu Lys
            180                 185                 190

Asp Phe Ser Leu Trp Glu Lys Thr Gly Leu Lys Glu Phe Leu Lys Thr
        195                 200                 205

Thr Lys Gln Ser Phe Asp Leu Ser Val Lys Ala Gln Tyr Lys Lys Asn
    210                 215                 220

Lys His Arg His Ser Ile Asn Pro Leu Ala Val Leu Cys Glu Phe Ile
225                 230                 235                 240
```

```
Ser Gln Ser Ile Lys Ser Phe Asp Arg His Phe Glu Lys Asn Arg Asn
                245                 250                 255

Asn Ala Leu Asp Phe Val Thr Lys Ser Tyr Asn Glu Thr Lys Ile Lys
            260                 265                 270

Phe Asp Lys Tyr Lys Ala Glu Lys Ser His Asp Glu Leu Pro Arg Thr
        275                 280                 285

Phe Gln Ile Pro Gly Tyr Thr Val Pro Val Val Asn Val Glu Val Ser
    290                 295                 300

Pro Phe Thr Ile Glu Met Ser Ala Phe Gly Tyr Val Phe Pro Lys Ala
305                 310                 315                 320

Val Ser Met Pro Ser Phe Ser Ile Leu Gly Ser Asp Val Arg Val Pro
                325                 330                 335

Ser Tyr Thr Leu Ile Leu Pro Ser Leu Glu Leu Pro Val Leu His Val
            340                 345                 350

Pro Arg Asn Leu Lys Leu Ser Leu Pro His Phe Lys Glu Leu Cys Thr
        355                 360                 365

Ile Ser His Ile Phe Ile Pro Ala Met Gly Asn Ile Thr Tyr Asp Phe
    370                 375                 380

Ser Phe Lys Ser Ser Val Ile Thr Leu Asn
385                 390
```

<210> 84
<211> 51
<212> PRT
<213> Homo sapiens

<400> 84

```
Met Ala Ser Gly Arg Ala Arg Cys Thr Arg Lys Leu Arg Asn Trp Val
  1               5                  10                  15

Val Glu Gln Val Glu Ser Gly Gln Phe Pro Gly Val Cys Trp Asp Asp
             20                  25                  30

Thr Ala Lys Thr Met Phe Arg Ile Pro Trp Lys His Ala Gly Lys Gln
         35                  40                  45

Asp Phe Arg
```

50

<210> 85
<211> 48
<212> PRT
<213> Homo sapiens

<400> 85
Pro Lys Asp Ala Thr Arg Phe Lys His Leu Arg Lys Tyr Thr Tyr Asn
1 5 10 15

Tyr Glu Ala Glu Ser Ser Ser Gly Val Pro Gly Thr Ala Asp Ser Arg
20 25 30

Ser Ala Thr Arg Ile Asn Cys Lys Val Glu Leu Glu Val Leu Pro Gln
35 40 45

<210> 86
<211> 37
<212> PRT
<213> Homo sapiens

<400> 86
Pro Glu Gly Lys Ala Leu Leu Lys Lys Thr Lys Asn Ser Glu Glu Phe
1 5 10 15

Ala Ala Ala Met Ser Arg Tyr Glu Leu Lys Leu Ala Ile Pro Glu Gly
20 25 30

Lys Gln Val Phe Leu
35

<210> 87
<211> 38
<212> PRT
<213> Homo sapiens

<400> 87
Cys Ser Thr His Phe Thr Val Lys Thr Arg Lys Gly Asn Val Ala Thr
1 5 10 15

Glu Ile Ser Thr Glu Arg Asp Leu Gly Gln Cys Asp Arg Phe Lys Pro

```
            20                  25                  30

Ile Arg Thr Gly Ile Ser
         35
```

<210> 88
<211> 51
<212> PRT
<213> Homo sapiens

<400> 88

```
Cys Ser Thr His Ile Leu Gln Trp Leu Lys Arg Val His Ala Asn Pro
  1               5                  10                  15

Leu Leu Ile Asp Val Val Thr Tyr Leu Val Ala Leu Ile Pro Glu Pro
             20                  25                  30

Ser Ala Gln Gln Leu Arg Glu Ile Phe Asn Met Ala Arg Asp Gln Arg
         35                  40                  45

Ser Arg Ala
     50
```

<210> 89
<211> 38
<212> PRT
<213> Homo sapiens

<400> 89

```
His Leu Ser Cys Asp Thr Lys Glu Glu Arg Lys Ile Lys Gly Val Ile
  1               5                  10                  15

Ser Ile Pro Arg Leu Gln Ala Glu Ala Arg Ser Glu Ile Leu Ala His
             20                  25                  30

Trp Ser Pro Ala Lys Leu
         35
```

<210> 90
<211> 47
<212> PRT
<213> Homo sapiens

<400> 90

```
Ser Val His Leu Asp Ser Lys Lys Lys Gln His Leu Phe Val Lys Glu
```

```
  1               5                  10                  15

Val Lys Ile Asp Gly Gln Phe Arg Val Ser Ser Phe Tyr Ala Lys Gly
             20                  25                  30

Thr Tyr Gly Leu Ser Cys Gln Arg Asp Pro Asn Thr Gly Arg Leu
         35                  40                  45
```

<210> 91
<211> 40
<212> PRT
<213> Homo sapiens

<400> 91

```
Lys His Ile Asn Ile Asp Gln Phe Val Arg Lys Tyr Arg Ala Ala Leu
  1               5                  10                  15

Gly Lys Leu Pro Gln Gln Ala Asn Asp Tyr Leu Ser Phe Asn Trp Glu
             20                  25                  30

Arg Gln Val Ser His Ala Lys Glu
         35                  40
```

<210> 92
<211> 40
<212> PRT
<213> Homo sapiens

<400> 92

```
Lys Leu Thr Ala Leu Thr Lys Lys Tyr Arg Ile Thr Glu Asn Asp Ile
  1               5                  10                  15

Gln Ile Ala Leu Asp Asp Ala Lys Ile Asn Phe Asn Glu Lys Leu Ser
             20                  25                  30

Gln Leu Gln Thr Tyr Met Ile Gln
         35                  40
```

<210> 93
<211> 50
<212> PRT
<213> Homo sapiens

<400> 93

```
Glu Arg Ile Asn Asp Val Leu Glu His Val Lys His Phe Val Ile Asn
```

```
  1               5                  10                  15

Leu Ile Gly Asp Phe Glu Val Ala Glu Lys Ile Asn Ala Phe Arg Ala
             20                  25                  30

Lys Val His Glu Leu Ile Glu Arg Tyr Glu Val Asp Gln Gln Ile Gln
         35                  40                  45

Val Leu
     50
```

<210> 94
<211> 50
<212> PRT
<213> Homo sapiens

<400> 94

```
Asn Lys Phe Leu Asp Met Leu Ile Lys Lys Leu Lys Ser Phe Asp Tyr
  1               5                  10                  15

His Gln Phe Val Asp Glu Thr Asn Asp Lys Ile Arg Glu Val Thr Gln
             20                  25                  30

Arg Leu Asn Gly Glu Ile Gln Ala Leu Glu Leu Pro Gln Lys Ala Glu
         35                  40                  45

Ala Leu
     50
```

<210> 95
<211> 23
<212> PRT
<213> Homo sapiens

<400> 95

```
Ser Asn Lys Ile Asn Ser Lys His Leu Arg Val Asn Gln Asn Leu Val
  1               5                  10                  15

Tyr Glu Ser Gly Ser Leu Asn
             20
```

<210> 96
<211> 47
<212> PRT
<213> Homo sapiens

<400> 96
Phe Ser Lys Leu Glu Ile Gln Ser Gln Val Asp Ser Gln His Val Gly
1 5 10 15

His Ser Val Leu Thr Ala Lys Gly Met Ala Leu Phe Gly Glu Gly Gly
20 25 30

Lys Ala Glu Phe Thr Gly Arg His Asp Ala His Leu Asn Gly Lys
35 40 45

<210> 97
<211> 50
<212> PRT
<213> Homo sapiens

<400> 97
Val Lys Ala Gln Tyr Lys Lys Asn Lys His Arg His Ser Ile Thr Asn
1 5 10 15

Pro Leu Ala Val Leu Cys Glu Phe Ile Ser Gln Ser Ile Lys Ser Phe
20 25 30

Asp Arg His Phe Glu Lys Asn Arg Asn Asn Ala Leu Asp Phe Val Thr
35 40 45

Lys Ser
50

<210> 98
<211> 51
<212> PRT
<213> Homo sapiens

<400> 98
Lys Leu Glu Gly Thr Thr Arg Leu Thr Arg Lys Arg Gly Leu Lys Leu
1 5 10 15

Ala Thr Ala Leu Ser Leu Ser Asn Lys Phe Val Glu Gly Ser His Asn
20 25 30

Ser Thr Val Ser Leu Thr Thr Lys Asn Met Glu Val Ser Val Ala Lys
35 40 45

Thr Thr Lys
50

<210> 99
<211> 51
<212> PRT
<213> Homo sapiens

<400> 99
Lys Leu Asp Val Thr Thr Ser Ile Gly Arg Arg Gln His Leu Arg Val
1 5 10 15

Ser Thr Ala Phe Val Tyr Thr Lys Asn Pro Asn Gly Tyr Ser Phe Ser
20 25 30

Ile Pro Val Lys Val Leu Ala Asp Lys Phe Ile Thr Pro Gly Leu Lys
35 40 45

Leu Asn Asp
50

<210> 100
<211> 49
<212> PRT
<213> Homo sapiens

<400> 100
Phe Arg Glu Ile Gln Ile Tyr Lys Lys Leu Arg Thr Ser Ser Phe Ala
1 5 10 15

Leu Asn Leu Pro Thr Leu Pro Glu Val Lys Phe Pro Glu Val Asp Val
20 25 30

Leu Thr Lys Tyr Ser Gln Pro Glu Asp Ser Leu Ile Pro Phe Phe Glu
35 40 45

Ile

<210> 101
<211> 48
<212> PRT
<213> Homo sapiens

<400> 101
Leu His Leu Arg Tyr Gln Lys Asp Lys Lys Gly Ile Ser Thr Ser Ala
1 5 10 15

```
Ala Ser Pro Ala Val Gly Thr Val Gly Met Asp Met Asp Glu Asp Asp
             20                  25                  30

Asp Phe Ser Lys Trp Asn Phe Tyr Tyr Ser Pro Gln Ser Ser Pro Asp
         35                  40                  45
```

<210> 102
<211> 48
<212> PRT
<213> Homo sapiens

<400> 102

```
Leu Arg Glu Val Ser Ser Lys Leu Arg Arg Asn Leu Gln Asn Asn Ala
  1               5                  10                  15

Glu Trp Val Tyr Gln Gly Ala Ile Arg Gln Ile Asp Asp Ile Asp Val
             20                  25                  30

Arg Phe Gln Lys Ala Ala Ser Gly Thr Thr Gly Thr Tyr Gln Glu Trp
         35                  40                  45
```

<210> 103
<211> 50
<212> PRT
<213> Homo sapiens

<400> 103

```
Arg Val Thr Gln Lys Phe His Met Lys Val Lys His Leu Ile Asp Ser
  1               5                  10                  15

Leu Ile Asp Phe Leu Asn Phe Pro Arg Phe Gln Phe Pro Gly Lys Pro
             20                  25                  30

Gly Ile Tyr Thr Arg Glu Glu Leu Cys Thr Met Phe Ile Arg Glu Val
         35                  40                  45

Gly Thr
     50
```

<210> 104
<211> 49
<212> PRT
<213> Homo sapiens

<400> 104
Trp Lys His Ala Gly Lys Gln Asp Phe Arg Glu Ser Gln Asp Ala Ala
1 5 10 15

Ala Phe Phe Lys Ala Trp Ala Ile Phe Lys Gly Lys Tyr Lys Glu Gly
20 25 30

Asp Lys Glu Val Pro Glu Arg Gly Arg Met Asp Val Ala Glu Pro Tyr
35 40 45

Lys

<210> 105
<211> 48
<212> PRT
<213> Homo sapiens

<400> 105
Glu His Val Lys His Phe Val Ile Asn Leu Ile Gly Asp Phe Glu Val
1 5 10 15

Ala Glu Lys Ile Asn Ala Phe Arg Ala Lys Val His Glu Leu Ile Glu
20 25 30

Arg Tyr Glu Val Asp Gln Gln Ile Gln Val Leu Met Asp Lys Leu Val
35 40 45

<210> 106
<211> 52
<212> PRT
<213> Homo sapiens

<400> 106
Val Arg Lys Tyr Arg Ala Ala Leu Gly Lys Leu Pro Gln Gln Ala Asn
1 5 10 15

```
Asp Tyr Leu Asn Ser Phe Asn Trp Glu Arg Gln Val Ser His Ala Lys
             20                  25                  30

Glu Lys Leu Thr Ala Leu Thr Lys Lys Tyr Arg Ile Thr Glu Asn Asp
         35                  40                  45

Ile Gln Ile Ala
     50
```

<210> 107
<211> 57
<212> PRT
<213> Homo sapiens

<400> 107

```
Tyr Ile Lys Asp Ser Tyr Asp Leu His Asp Leu Lys Ile Ala Ile Ala
  1               5                  10                  15

Asn Ile Ile Asp Glu Ile Ile Glu Lys Leu Lys Ser Leu Asp Glu His
             20                  25                  30

Tyr His Ile Arg Val Asn Leu Val Lys Thr Ile His Asp Leu His Leu
         35                  40                  45

Phe Ile Glu Asn Ile Asp Phe Asn Lys
     50                  55
```

<210> 108
<211> 33
<212> PRT
<213> Homo sapiens

<400> 108

```
Lys Ile Thr Leu Ile Ile Asn Trp Leu Gln Glu Ala Leu Ser Ser Ala
  1               5                  10                  15

Ser Leu Ala His Met Lys Ala Lys Phe Arg Glu Thr Leu Glu Asp Thr
             20                  25                  30

Arg
```

<210> 109
<211> 32
<212> PRT

<213> Homo sapiens

<400> 109
Thr Asp His Phe Ser Leu Arg Ala Arg Tyr His Met Lys Ala Asp Ser
1 5 10 15

Val Val Asp Leu Ser Tyr Asn Val Gln Gly Ser Gly Glu Thr Thr Tyr
20 25 30

<210> 110
<211> 20
<212> PRT
<213> Homo sapiens

<400> 110
Lys Leu Thr Thr Asn Gly Arg Phe Arg Glu His Asn Ala Lys Phe Ser
1 5 10 15

Leu Asp Gly Lys
20

<210> 111
<211> 52
<212> PRT
<213> Homo sapiens

<400> 111
Asp Thr Lys Tyr Gln Ile Arg Ile Gln Ile Gln Glu Lys Leu Gln Gln
1 5 10 15

Leu Lys Arg His Ile Gln Asn Ile Asp Ile Gln His Leu Ala Gly Lys
20 25 30

Leu Lys Gln His Ile Glu Ala Ile Asp Val Arg Val Leu Leu Asp Gln
35 40 45

Leu Gly Thr Thr
50

<210> 112
<211> 45
<212> PRT

<213> Homo sapiens

<400> 112
Phe His Asp Phe Pro Asp Leu Gly Gln Glu Val Ala Leu Asn Ala Asn
1 5 10 15

Thr Lys Asn Gln Lys Ile Arg Trp Lys Asn Glu Val Arg Ile His Ser
20 25 30

Gly Ser Phe Gln Ser Gln Val Glu Leu Ser Asn Asp Gln
35 40 45

<210> 113
<211> 34
<212> PRT
<213> Homo sapiens

<400> 113
Lys Asp Asn Val Phe Asp Gly Leu Val Arg Val Thr Gln Lys Phe His
1 5 10 15

Met Lys Val Lys His Leu Ile Asp Ser Leu Ile Asp Phe Leu Asn Phe
20 25 30

Pro Arg

<210> 114
<211> 35
<212> PRT
<213> Homo sapiens

<400> 114
His Arg Asn Ile Gln Glu Tyr Leu Ser Ile Leu Thr Asp Pro Asp Gly
1 5 10 15

Lys Gly Lys Glu Lys Ile Ala Glu Leu Ser Ala Thr Ala Gln Glu Ile
20 25 30

Ile Lys Ser
35

<210> 115
<211> 165
<212> PRT

<213> Homo sapiens

<400> 115

```
Arg Asn Leu Lys His Ile Asn Ile Asp Gln Phe Val Arg Lys Tyr Arg
  1               5                  10                  15

Ala Ala Leu Gly Lys Leu Pro Gln Gln Ala Asn Asp Tyr Leu Asn Ser
             20                  25                  30

Phe Asn Trp Glu Arg Gln Val Ser His Ala Lys Glu Lys Leu Thr Ala
         35                  40                  45

Leu Thr Lys Lys Tyr Arg Ile Thr Glu Asn Asp Ile Gln Ile Ala Leu
     50                  55                  60

Asp Asp Ala Lys Ile Asn Phe Asn Glu Lys Leu Ser Gln Leu Gln Thr
 65                  70                  75                  80

Tyr Met Ile Gln Phe Asp Gln Tyr Ile Lys Asp Ser Tyr Asp Leu His
                 85                  90                  95

Asp Leu Lys Ile Ala Ile Ala Asn Ile Ile Asp Glu Ile Ile Glu Lys
            100                 105                 110

Leu Lys Ser Leu Asp Glu His Tyr His Ile Arg Val Asn Leu Val Lys
        115                 120                 125

Thr Ile His Asp Leu His Leu Phe Ile Glu Asn Ile Asp Phe Asn Lys
    130                 135                 140

Ser Gly Ser Ser Thr Ala Ser Trp Ile Gln Asn Val Asp Thr Lys Tyr
145                 150                 155                 160

Gln Ile Arg Ile Gln
                165
```

<210> 116
<211> 174
<212> PRT
<213> Homo sapiens

<400> 116

```
Gly Pro Leu Pro Thr Leu Val Ser Gly Gly Thr Ile Leu Ala Thr Val
  1               5                  10                  15

Pro Leu Val Val Asp Ala Glu Lys Leu Pro Ile Asn Arg Leu Ala Ala
             20                  25                  30
```

```
Gly Ser Lys Ala Pro Ala Ser Ala Gln Ser Arg Gly Glu Lys Arg Thr
         35                  40                  45

Ala His Asn Ala Ile Glu Lys Arg Tyr Arg Ser Ser Ile Asn Asp Lys
     50                  55                  60

Ile Ile Glu Leu Lys Asp Leu Val Val Gly Thr Glu Ala Lys Leu Asn
 65                  70                  75                  80

Lys Ser Ala Val Leu Arg Lys Ala Ile Asp Tyr Ile Arg Phe Leu Gln
                 85                  90                  95

His Ser Asn Gln Lys Leu Lys Gln Glu Asn Leu Ser Leu Arg Thr Ala
            100                 105                 110

Val His Lys Ser Lys Ser Leu Lys Asp Leu Val Ser Ala Cys Gly Ser
        115                 120                 125

Gly Gly Asn Thr Asp Val Leu Met Glu Gly Val Lys Thr Glu Val Glu
    130                 135                 140

Asp Thr Leu Thr Pro Pro Pro Ser Asp Ala Gly Ser Pro Phe Gln Ser
145                 150                 155                 160

Ser Pro Leu Ser Leu Gly Ser Arg Gly Ser Gly Ser Gly Gly
                165                 170
```

<210> 117
<211> 172
<212> PRT
<213> Homo sapiens

<400> 117

```
Gln Val Pro Thr Leu Val Gly Ser Ser Gly Thr Ile Leu Thr Thr Met
  1               5                  10                  15

Pro Val Met Met Gly Gln Glu Lys Val Pro Ile Lys Gln Val Pro Gly
             20                  25                  30

Gly Val Lys Gln Leu Glu Pro Pro Lys Glu Gly Glu Arg Arg Thr Thr
         35                  40                  45

His Asn Ile Ile Glu Lys Arg Tyr Arg Ser Ser Ile Asn Asp Lys Ile
     50                  55                  60

Ile Glu Leu Lys Asp Leu Val Met Gly Thr Asp Ala Lys Met His Lys
```

```
 65                  70                  75                  80

Ser Gly Val Leu Arg Lys Ala Ile Asp Tyr Ile Lys Tyr Leu Gln Gln
                 85                  90                  95

Val Asn His Lys Leu Arg Gln Glu Asn Met Val Leu Lys Leu Ala Asn
            100                 105                 110

Gln Lys Asn Lys Leu Leu Lys Gly Ile Asp Leu Gly Ser Leu Val Asp
        115                 120                 125

Asn Glu Val Asp Leu Lys Ile Glu Asp Phe Asn Gln Asn Val Leu Leu
    130                 135                 140

Met Ser Pro Pro Ala Ser Asp Ser Gly Ser Gln Ala Gly Phe Ser Pro
145                 150                 155                 160

Tyr Ser Ile Asp Ser Glu Pro Gly Ser Pro Leu Leu
                165                 170


<210> 118
<211> 173
<212> PRT
<213> Homo sapiens

<400> 118
Gly Pro Leu Gln Thr Leu Val Ser Gly Gly Thr Ile Leu Ala Thr Val
  1               5                  10                  15

Pro Leu Val Val Asp Thr Asp Lys Leu Pro Ile His Arg Leu Ala Ala
             20                  25                  30

Gly Gly Lys Ala Leu Gly Ser Ala Gln Ser Arg Gly Glu Lys Arg Thr
         35                  40                  45

Ala His Asn Ala Ile Glu Lys Arg Tyr Arg Ser Ser Ile Asn Asp Lys
     50                  55                  60

Ile Val Glu Leu Lys Asp Leu Val Val Gly Thr Glu Ala Lys Leu Asn
 65                  70                  75                  80

Lys Ser Ala Val Leu Arg Lys Ala Ile Asp Tyr Ile Arg Phe Leu Gln
                 85                  90                  95

His Ser Asn Gln Lys Leu Lys Gln Glu Asn Leu Thr Leu Arg Ser Ala
            100                 105                 110
```

```
His Lys Ser Lys Ser Leu Lys Asp Leu Val Ser Ala Cys Gly Ser Gly
        115                 120                 125

Gly Gly Thr Asp Val Ser Met Glu Gly Met Lys Pro Glu Val Val Glu
    130                 135                 140

Thr Leu Thr Pro Pro Pro Ser Asp Ala Gly Ser Pro Ser Gln Ser Ser
145                 150                 155                 160

Pro Leu Ser Leu Gly Ser Arg Gly Ser Ser Ser Gly Gly
                165                 170
```

<210> 119
<211> 243
<212> PRT
<213> Homo sapiens

<400> 119

```
Asp Glu Pro Pro Gln Ser Pro Trp Asp Arg Val Lys Asp Leu Ala Thr
  1               5                  10                  15

Val Tyr Val Asp Val Leu Lys Asp Ser Gly Arg Asp Tyr Val Ser Gln
             20                  25                  30

Phe Glu Gly Ser Ala Leu Gly Lys Gln Leu Asn Leu Lys Leu Leu Asp
         35                  40                  45

Asn Trp Asp Ser Val Thr Ser Thr Phe Ser Lys Leu Arg Glu Gln Leu
     50                  55                  60

Gly Pro Val Thr Gln Glu Phe Trp Asp Asn Leu Glu Lys Glu Thr Glu
 65                  70                  75                  80

Gly Leu Arg Gln Glu Met Ser Lys Asp Leu Glu Glu Val Lys Ala Lys
                 85                  90                  95

Val Gln Pro Tyr Leu Asp Asp Phe Gln Lys Lys Trp Gln Glu Glu Met
            100                 105                 110

Glu Leu Tyr Arg Gln Lys Val Glu Pro Leu Arg Ala Glu Leu Gln Glu
        115                 120                 125

Gly Ala Arg Gln Lys Leu His Glu Leu Gln Glu Lys Leu Ser Pro Leu
    130                 135                 140

Gly Glu Glu Met Arg Asp Arg Ala Arg Ala His Val Asp Ala Leu Arg
145                 150                 155                 160
```

```
Thr His Leu Ala Pro Tyr Ser Asp Glu Leu Arg Gln Arg Leu Ala Ala
                165                 170                 175

Arg Leu Glu Ala Leu Lys Glu Asn Gly Gly Ala Arg Leu Ala Glu Tyr
            180                 185                 190

His Ala Lys Ala Thr Glu His Leu Ser Thr Leu Ser Glu Lys Ala Lys
        195                 200                 205

Pro Ala Leu Glu Asp Leu Arg Gln Gly Leu Leu Pro Val Leu Glu Ser
    210                 215                 220

Phe Lys Val Ser Phe Leu Ser Ala Leu Glu Glu Tyr Thr Lys Lys Leu
225                 230                 235                 240

Asn Thr Gln
```

<210> 120
<211> 269
<212> PRT
<213> Homo sapiens

<400> 120

```
Gln Gln Val Pro Val Leu Leu Gln Pro His Phe Ile Lys Ala Asp Ser
  1               5                  10                  15

Leu Leu Leu Thr Ala Met Lys Thr Asp Gly Ala Thr Val Lys Ala Ala
             20                  25                  30

Gly Leu Ser Pro Leu Val Ser Gly Thr Thr Val Gln Thr Gly Pro Leu
         35                  40                  45

Pro Thr Leu Val Ser Gly Gly Thr Ile Leu Ala Thr Val Pro Leu Val
     50                  55                  60

Val Asp Ala Glu Lys Leu Pro Ile Asn Arg Leu Ala Ala Gly Ser Lys
 65                  70                  75                  80

Ala Pro Ala Ser Ala Gln Ser Arg Gly Glu Lys Arg Thr Ala His Asn
                 85                  90                  95

Ala Ile Glu Lys Arg Tyr Arg Ser Ser Ile Asn Asp Lys Ile Ile Glu
            100                 105                 110

Leu Lys Asp Leu Val Val Gly Thr Glu Ala Lys Leu Asn Lys Ser Ala
```

```
        115                 120                 125

Val Leu Arg Lys Ala Ile Asp Tyr Ile Arg Phe Leu Gln His Ser Asn
    130                 135                 140

Gln Lys Leu Lys Gln Glu Asn Leu Ser Leu Arg Thr Ala Val His Lys
145                 150                 155                 160

Ser Lys Ser Leu Lys Asp Leu Val Ser Ala Cys Gly Ser Gly Gly Asn
                165                 170                 175

Thr Asp Val Leu Met Glu Gly Val Lys Thr Glu Val Glu Asp Thr Leu
            180                 185                 190

Thr Pro Pro Pro Ser Asp Ala Gly Ser Pro Phe Gln Ser Ser Pro Leu
        195                 200                 205

Ser Leu Gly Ser Arg Gly Ser Gly Ser Gly Gly Ser Gly Ser Asp Ser
    210                 215                 220

Glu Pro Asp Ser Pro Val Phe Glu Asp Ser Lys Ala Lys Pro Glu Gln
225                 230                 235                 240

Arg Pro Ser Leu His Ser Arg Gly Met Leu Asp Arg Ser Arg Leu Leu
                245                 250                 255

Ala Leu Cys Thr Leu Val Phe Leu Cys Leu Ser Cys Asn
            260                 265
```

<210> 121
<211> 77
<212> PRT
<213> Homo sapiens

<400> 121

```
Gln Ala Lys Glu Pro Cys Val Glu Ser Leu Val Ser Gln Tyr Phe Gln
  1               5                  10                  15

Thr Val Thr Asp Tyr Gly Lys Asp Leu Met Glu Lys Val Lys Ser Pro
             20                  25                  30

Glu Leu Gln Ala Glu Ala Lys Ser Tyr Phe Glu Lys Ser Lys Glu Gln
         35                  40                  45

Leu Thr Pro Leu Ile Lys Lys Ala Gly Thr Glu Leu Val Asn Phe Leu
     50                  55                  60
```

```
Ser Tyr Phe Val Glu Leu Gly Thr Gln Pro Ala Thr Gln
 65                  70                  75
```

<210> 122
<211> 71
<212> PRT
<213> Homo sapiens

<400> 122

```
Glu Ala Lys Leu Asn Lys Ser Ala Val Leu Arg Lys Ala Ile Asp Tyr
  1               5                  10                  15

Ile Arg Phe Leu Gln His Ser Asn Gln Lys Leu Lys Gln Glu Asn Leu
             20                  25                  30

Ser Leu Arg Thr Ala Val His Lys Ser Lys Ser Leu Lys Asp Leu Val
         35                  40                  45

Ser Ala Cys Gly Ser Gly Gly Asn Thr Asp Val Leu Met Glu Gly Val
     50                  55                  60

Lys Thr Glu Val Glu Asp Thr
 65                  70
```

<210> 123
<211> 397
<212> PRT
<213> Homo sapiens

<400> 123

```
Gln Lys Ser Glu Leu Thr Gln Gln Leu Asn Ala Leu Phe Gln Asp Lys
  1               5                  10                  15

Leu Gly Glu Val Asn Thr Tyr Ala Gly Asp Leu Gln Lys Lys Leu Val
             20                  25                  30

Pro Phe Ala Thr Glu Leu His Glu Arg Leu Ala Lys Asp Ser Glu Lys
         35                  40                  45

Leu Lys Glu Glu Ile Gly Lys Glu Leu Glu Glu Leu Arg Ala Arg Leu
     50                  55                  60

Leu Pro His Ala Asn Glu Val Ser Gln Lys Ile Gly Asp Asn Leu Arg
 65                  70                  75                  80

Glu Leu Gln Gln Arg Leu Glu Pro Tyr Ala Asp Gln Leu Arg Thr Gln
```

```
                85                  90                  95

Val Asn Thr Gln Ala Glu Gln Leu Arg Arg Gln Leu Asp Pro Leu Ala
            100                 105                 110

Gln Arg Met Glu Arg Val Leu Arg Glu Asn Ala Asp Ser Leu Gln Ala
        115                 120                 125

Ser Leu Arg Pro His Ala Asp Glu Leu Lys Ala Lys Ile Asp Gln Asn
    130                 135                 140

Val Glu Glu Leu Lys Gly Arg Leu Thr Pro Tyr Ala Asp Glu Phe Lys
145                 150                 155                 160

Val Lys Ile Asp Gln Thr Val Glu Glu Leu Arg Arg Ser Leu Ala Pro
                165                 170                 175

Tyr Ala Gln Asp Thr Gln Glu Lys Leu Asn His Gln Leu Glu Gly Leu
            180                 185                 190

Thr Phe Gln Met Lys Lys Asn Ala Glu Glu Leu Lys Ala Arg Ile Ser
        195                 200                 205

Ala Ser Ala Glu Ile Asp Gln Thr Val Glu Glu Leu Arg Arg Ser Leu
    210                 215                 220

Ala Pro Tyr Ala Gln Asp Thr Gln Glu Lys Leu Asn His Gln Leu Glu
225                 230                 235                 240

Gly Leu Thr Phe Gln Met Lys Lys Asn Ala Glu Glu Leu Lys Ala Arg
                245                 250                 255

Ile Ser Ala Ser Ala Glu Glu Leu Arg Gln Arg Leu Ala Pro Leu Ala
            260                 265                 270

Glu Asp Val Arg Gly Asn Leu Lys Gly Asn Thr Glu Gly Leu Gln Lys
        275                 280                 285

Ser Leu Ala Glu Leu Gly Gly His Leu Asp Gln Gln Val Glu Glu Phe
    290                 295                 300

Arg Arg Arg Val Glu Pro Tyr Gly Glu Asn Phe Asn Lys Ala Leu Val
305                 310                 315                 320

Gln Gln Met Glu Gln Leu Arg Gln Lys Leu Gly Pro His Ala Gly Asp
                325                 330                 335

Val Glu Gly His Leu Ser Phe Leu Glu Lys Asp Leu Arg Asp Lys Val
```

```
            340                 345                 350

Asn Ser Phe Phe Ser Thr Phe Lys Glu Lys Glu Ser Gln Asp Lys Thr
        355                 360                 365

Leu Ser Leu Pro Glu Leu Glu Gln Gln Gln Glu Gln Gln Gln Glu Gln
    370                 375                 380

Gln Gln Glu Gln Val Gln Met Leu Ala Pro Leu Glu Ser
385                 390                 395


<210> 124
<211> 412
<212> PRT
<213> Homo sapiens

<400> 124
Glu Lys Leu Pro Ile Asn Arg Leu Ala Ala Gly Ser Lys Ala Pro Ala
  1               5                  10                  15

Ser Ala Gln Ser Arg Gly Glu Lys Arg Thr Ala His Asn Ala Ile Glu
             20                  25                  30

Lys Arg Tyr Arg Ser Ser Ile Asn Asp Lys Ile Ile Glu Leu Lys Asp
         35                  40                  45

Leu Val Val Gly Thr Glu Ala Lys Leu Asn Lys Ser Ala Val Leu Arg
     50                  55                  60

Lys Ala Ile Asp Tyr Ile Arg Phe Leu Gln His Ser Asn Gln Lys Leu
 65                  70                  75                  80

Lys Gln Glu Asn Leu Ser Leu Arg Thr Ala Val His Lys Ser Lys Ser
                 85                  90                  95

Leu Lys Asp Leu Val Ser Ala Cys Gly Ser Gly Gly Asn Thr Asp Val
            100                 105                 110

Leu Met Glu Gly Val Lys Thr Glu Val Glu Asp Thr Leu Thr Pro Pro
        115                 120                 125

Pro Ser Asp Ala Lys Pro Phe Gln Ser Ser Pro Leu Ser Leu Lys Arg
    130                 135                 140

Lys Lys Gly Lys Lys Asp Ser Glu Pro Asp Ser Pro Val Phe Glu Asp
145                 150                 155                 160
```

```
Ser Lys Ala Lys Pro Glu Gln Arg Pro Ser Leu His Ser Arg Gly Met
                165                 170                 175

Leu Asp Arg Ser Arg Leu Ala Leu Cys Thr Leu Val Phe Leu Cys Leu
            180                 185                 190

Ser Cys Asn Pro Leu Ala Ser Leu Leu Gly Ala Arg Gly Leu Pro Ser
        195                 200                 205

Pro Ser Asp Thr Thr Ser Val Tyr His Ser Pro Gly Arg Asn Val Leu
    210                 215                 220

Gly Thr Glu Arg Asp Gly Pro Gly Trp Ala Gln Ala Val Gln Leu Phe
225                 230                 235                 240

Leu Cys Asp Leu Leu Leu Val Ala Thr Ser Leu Trp Arg Gln Gln Gln
                245                 250                 255

Pro Pro Ala Pro Ala Pro Ala Ala Gln Gly Ala Ser Ser Arg Pro Gln
            260                 265                 270

Ala Ser Ala Leu Glu Ile Arg Gly Phe Gln Arg Asp Leu Ser Ser Leu
        275                 280                 285

Arg Arg Leu Ala Gln Ser Phe Arg Pro Ala Met Arg Arg Val Phe Leu
    290                 295                 300

His Glu Ala Thr Ala Arg Leu Met Ala Gly Ala Ser Pro Thr Arg Thr
305                 310                 315                 320

His Gln Leu Leu Asp Arg Ser Leu Arg Arg Arg Ala Gly Pro Gly Gly
                325                 330                 335

Lys Gly Gly Ala Ala Glu Leu Glu Pro Arg Pro Thr Arg Arg Glu His
            340                 345                 350

Ala Glu Ala Leu Leu Leu Ala Ser Cys Tyr Leu Pro Pro Gly Phe Leu
        355                 360                 365

Ser Ala Pro Gly Gln Arg Val Gly Met Leu Ala Glu Ala Arg Thr Leu
    370                 375                 380

Glu Lys Leu Gly Asp Arg Arg Leu Leu His Asp Cys Gln Gln Met Leu
385                 390                 395                 400

Met Arg Leu Gly Gly Gly Thr Thr Val Thr Ser Ser
                405                 410
```

<210> 125
<211> 124
<212> PRT
<213> Homo sapiens

<400> 125
Glu Lys Met Ser Leu Arg Asn Arg Leu Ser Lys Ser Arg Glu Asn Pro
1 5 10 15

Glu Glu Asp Glu Asp Gln Arg Asn Pro Ala Lys Glu Ser Leu Glu Thr
20 25 30

Pro Ser Asn Gly Arg Ile Asp Ile Lys Gln Leu Ile Ala Lys Lys Ile
35 40 45

Lys Leu Thr Ala Glu Asn Gly Arg Ile Asp Ile Lys Gln Leu Ile Ala
50 55 60

Lys Lys Ile Lys Leu Thr Ala Glu Ala Glu Glu Leu Lys Pro Phe Phe
65 70 75 80

Met Lys Glu Val Gly Ser His Phe Asp Asp Phe Val Thr Asn Leu Ile
85 90 95

Glu Lys Ser Ala Ser Leu Asp Asn Lys Ala His Ser Phe Val Arg Glu
100 105 110

Asn Val Pro Arg Val Leu Asn Ser Ala Lys Glu Lys
115 120

<210> 126
<211> 135
<212> PRT
<213> Homo sapiens

<400> 126
Glu Lys Leu Pro Ile Asn Arg Leu Ala Ala Gly Ser Lys Ala Pro Ala
1 5 10 15

Ser Ala Gln Ser Arg Gly Glu Lys Arg Thr Ala His Asn Ala Ile Glu
20 25 30

Lys Arg Tyr Arg Ser Ser Ile Asn Asp Lys Ile Ile Glu Leu Lys Asp
35 40 45

Leu Val Val Gly Thr Glu Ala Lys Leu Asn Lys Ser Tyr Ile Arg Phe

```
     50                  55                  60

Leu Gln His Ser Asn Gln Lys Leu Lys Gln Glu Asn Leu Ser Leu Arg
 65                  70                  75                  80

Thr Ala Val His Lys Ser Lys Ser Leu Lys Asp Leu Val Ser Ala Cys
                 85                  90                  95

Gly Ser Gly Gly Asn Thr Asp Val Leu Met Glu Gly Val Lys Thr Glu
            100                 105                 110

Val Glu Asp Lys Ala Lys Pro Glu Gln Arg Pro Ser Leu His Ser Arg
        115                 120                 125

Gly Met Leu Asp Arg Ser Arg
    130                 135


<210> 127
<211> 26
<212> PRT
<213> Homo sapiens

<400> 127
Arg Arg His Cys Pro Leu Lys Asn Pro Thr Phe Leu Asp Tyr Val Arg
  1               5                  10                  15

Pro Arg Ser Trp Thr Cys Arg Tyr Val Phe
             20                  25


<210> 128
<211> 25
<212> PRT
<213> Homo sapiens

<400> 128
Arg Arg Arg Ala Gly Pro Gly Gly Lys Gly Gly Ala Val Ala Glu Leu
  1               5                  10                  15

Glu Pro Arg Pro Thr Arg Arg Glu His
             20                  25


<210> 129
<211> 114
<212> PRT
<213> Homo sapiens
```

<400> 129
Ala Met Leu Gly Gln Ser Thr Glu Glu Leu Arg Val Arg Leu Ala Ser
1 5 10 15

His Leu Arg Lys Leu Arg Lys Arg Leu Leu Arg Asp Ala Asp Asp Leu
20 25 30

Gln Lys Arg Leu Ala Val Tyr Gln Ala Gly Ala Arg Glu Gly Ala Glu
35 40 45

Arg Gly Leu Ser Ala Ile Arg Glu Arg Leu Gly Pro Leu Val Glu Gln
50 55 60

Gly Arg Val Arg Ala Ala Thr Val Gly Ser Leu Ala Gly Gln Pro Leu
65 70 75 80

Gln Glu Arg Ala Gln Ala Trp Gly Glu Arg Leu Arg Ala Arg Met Glu
85 90 95

Glu Met Gly Ser Arg Thr Arg Asp Arg Leu Asp Glu Val Lys Glu Gln
100 105 110

Val Ala

<210> 130
<211> 107
<212> PRT
<213> Homo sapiens

<400> 130
Lys Leu Pro Ile Asn Arg Leu Ala Ala Gly Ser Lys Ala Pro Ala Ser
1 5 10 15

Ala Gln Ser Arg Gly Glu Lys Arg Thr Ala His Asn Ala Ile Glu Lys
20 25 30

Arg Tyr Arg Ser Ser Ile Asn Asp Lys Ile Ile Glu Leu Lys Asp Leu
35 40 45

Val Val Gly Thr Glu Ala Lys Leu Asn Lys Ser Ala Val Leu Arg Lys
50 55 60

Ala Ile Asp Tyr Ile Arg Phe Leu Gln His Ser Asn Gln Lys Leu Lys
65 70 75 80

```
Gln Glu Asn Leu Ser Leu Arg Thr Ala Val His Lys Ser Lys Ser Leu
                 85                  90                  95

Lys Asp Leu Val Ser Ala Cys Gly Ser Gly Gly
            100                 105
```

<210> 131
<211> 42
<212> PRT
<213> Homo sapiens

<400> 131

```
Thr Gln Gln Pro Gln Gln Asp Glu Met Pro Ser Pro Thr Phe Leu Thr
  1               5                  10                  15

Gln Val Lys Glu Ser Leu Ser Ser Tyr Trp Glu Ser Ala Lys Thr Ala
             20                  25                  30

Ala Gln Asn Leu Tyr Glu Lys Thr Tyr Leu
         35                  40
```

<210> 132
<211> 45
<212> PRT
<213> Homo sapiens

<400> 132

```
Ser Gln Ile Gln Gln Val Pro Val Leu Leu Gln Pro His Phe Ile Lys
  1               5                  10                  15

Ala Asp Ser Leu Leu Leu Thr Ala Met Lys Thr Asp Gly Ala Thr Val
             20                  25                  30

Lys Ala Ala Gly Leu Ser Pro Leu Val Ser Gly Thr Thr
         35                  40                  45
```

<210> 133
<211> 45
<212> PRT
<213> Homo sapiens

<400> 133

```
Ser Leu Leu Ser Phe Met Gln Gly Tyr Met Lys His Ala Thr Lys Thr
  1               5                  10                  15
```

```
Ala Lys Asp Ala Leu Ser Ser Val Gln Glu Ser Gln Val Ala Gln Gln
             20                  25                  30

Ala Arg Gly Trp Val Thr Asp Gly Phe Ser Ser Leu Lys
         35                  40                  45
```

<210> 134
<211> 47
<212> PRT
<213> Homo sapiens

<400> 134

```
Ala Pro Ala Ser Ala Gln Ser Arg Gly Glu Lys Arg Thr Ala His Asn
  1               5                  10                  15

Ala Ile Glu Lys Arg Tyr Arg Ser Ser Ile Asn Asp Lys Ile Ile Glu
             20                  25                  30

Leu Lys Asp Leu Val Val Gly Thr Glu Ala Lys Leu Asn Lys Ser
         35                  40                  45
```

<210> 135
<211> 28
<212> PRT
<213> Homo sapiens

<400> 135

```
Asp Tyr Trp Ser Thr Val Lys Asp Lys Phe Ser Glu Phe Trp Asp Leu
  1               5                  10                  15

Asp Pro Glu Val Arg Pro Thr Ser Ala Val Ala Ala
             20                  25
```

<210> 136
<211> 32
<212> PRT
<213> Homo sapiens

<400> 136

```
Glu Ile Tyr Val Ala Ala Ala Leu Arg Val Lys Thr Ser Leu Pro Arg
  1               5                  10                  15

Ala Leu His Phe Leu Thr Arg Phe Phe Leu Ser Ser Ala Arg Gln Ala
             20                  25                  30
```

<210> 137
<211> 5
<212> PRT
<213> Homo sapiens

<400> 137
Glu Lys Ile Pro Thr
1 5

<210> 138
<211> 5
<212> PRT
<213> Homo sapiens

<400> 138
Glu Lys Leu Pro Ile
1 5

<210> 139
<211> 29
<212> PRT
<213> Homo sapiens

<400> 139
Glu Asn Gly Arg Cys Ile Gln Ala Asn Tyr Ser Leu Met Glu Asn Gly
1 5 10 15

Lys Ile Lys Val Leu Asn Gln Glu Leu Arg Ala Asp Gly
20 25

<210> 140
<211> 31
<212> PRT
<213> Homo sapiens

<400> 140
Ala Val Leu Arg Lys Ala Ile Asp Tyr Ile Arg Phe Leu Gln His Ser
1 5 10 15

Asn Gln Lys Leu Lys Gln Glu Asn Leu Ser Leu Arg Thr Ala Val
20 25 30

<210> 141
<211> 32
<212> PRT
<213> Homo sapiens

<400> 141
Met Lys Gln Leu Glu Asp Lys Val Glu Glu Leu Leu Ser Lys Asn Tyr
1 5 10 15

His Leu Glu Asn Glu Val Ala Arg Leu Lys Lys Leu Val Gly Glu Arg
20 25 30

<210> 142
<211> 32
<212> PRT
<213> Homo sapiens

<400> 142
Lys His Glu Ile Gln Glu Met Phe Asp Gln Leu Arg Ala Lys Glu Lys
1 5 10 15

Glu Leu Arg Thr Trp Glu Glu Glu Leu Thr Arg Ala Ala Leu Gln Gln
20 25 30

<210> 143
<211> 32
<212> PRT
<213> Homo sapiens

<400> 143
Glu Glu Leu Leu Arg Arg Arg Glu Gln Glu Leu Ala Glu Arg Glu Ile
1 5 10 15

Asp Ile Leu Glu Arg Glu Leu Asn Ile Ile Ile His Gln Leu Cys Gln
20 25 30

<210> 144
<211> 32
<212> PRT
<213> Homo sapiens

<400> 144
Arg Ile Gln Ile Gln Glu Lys Leu Gln Gln Leu Lys Arg His Ile Gln
1 5 10 15

Asn Ile Asp Ile Gln His Leu Ala Gly Lys Leu Lys Gln His Ile Glu
20 25 30

<210> 145
<211> 35
<212> PRT
<213> Homo sapiens

<400> 145
Val Leu Gln Gln Val Lys Ile Lys Asp Tyr Phe Glu Lys Leu Val Gly
1 5 10 15

Phe Ile Asp Asp Ala Val Lys Lys Leu Asn Glu Leu Ser Phe Lys Thr
20 25 30

Phe Ile Glu
35

<210> 146
<211> 31
<212> PRT
<213> Homo sapiens

<400> 146
Glu Leu Ser Phe Lys Thr Phe Ile Glu Asp Val Asn Lys Phe Leu Asp
1 5 10 15

Met Leu Ile Lys Lys Leu Lys Ser Phe Asp Tyr His Gln Phe Val
20 25 30

<210> 147

<211> 28
<212> PRT
<213> Homo sapiens

<400> 147
His Gln Phe Val Asp Glu Thr Asn Asp Lys Ile Arg Glu Val Thr Gln
1 5 10 15

Arg Leu Asn Gly Glu Ile Gln Ala Leu Glu Leu Pro
20 25

<210> 148
<211> 31
<212> PRT
<213> Homo sapiens

<400> 148
Ala Ala Lys Asn Leu Thr Asp Phe Ala Glu Gln Tyr Ser Ile Gln Asp
1 5 10 15

Trp Ala Lys Arg Met Lys Ala Leu Val Glu Gln Gly Phe Thr Val
20 25 30

<210> 149
<211> 35
<212> PRT
<213> Homo sapiens

<400> 149
Ser Ala Ser Leu Ala His Met Lys Ala Lys Phe Arg Glu Thr Leu Glu
1 5 10 15

Asp Thr Arg Asp Arg Met Tyr Asp Met Asp Ile Gln Gln Glu Leu Gln
20 25 30

Arg Tyr Leu
35

<210> 150
<211> 35
<212> PRT
<213> Homo sapiens

<400> 150
Cys Leu Asn Leu His Lys Phe Asn Glu Phe Ile Gln Asn Glu Leu Gln

```
  1               5                  10                  15

Glu Ala Ser Gln Glu Leu Gln Gln Ile His Gln Tyr Ile Met Ala Leu
             20                  25                  30

Arg Glu Glu
         35
```

<210> 151
<211> 33
<212> PRT
<213> Homo sapiens

<400> 151

```
Phe Leu Ile Tyr Ile Thr Glu Leu Leu Lys Lys Leu Gln Ser Thr Thr
  1               5                  10                  15

Val Met Asn Pro Tyr Met Lys Leu Ala Pro Gly Glu Leu Thr Ile Ile
             20                  25                  30

Leu
```

<210> 152
<211> 30
<212> PRT
<213> Homo sapiens

<400> 152

```
Arg Leu Leu Asp His Arg Val Pro Glu Thr Asp Met Thr Phe Arg His
  1               5                  10                  15

Val Gly Ser Lys Leu Ile Val Ala Met Ser Ser Trp Leu Gln
             20                  25                  30
```

<210> 153
<211> 30
<212> PRT
<213> Homo sapiens

<400> 153

```
Leu Asn Phe Ser Lys Leu Glu Ile Gln Ser Gln Val Asp Ser Gln His
  1               5                  10                  15

Val Gly His Ser Val Leu Thr Ala Lys Gly Met Ala Leu Phe
```

20 25 30

<210> 154
<211> 30
<212> PRT
<213> Homo sapiens

<400> 154
Asn Gln Asn Phe Ser Ala Gly Asn Asn Glu Asn Ile Met Glu Ala His
1 5 10 15

Val Gly Ile Asn Gly Glu Ala Asn Leu Asp Phe Leu Asn Ile
20 25 30

<210> 155
<211> 29
<212> PRT
<213> Homo sapiens

<400> 155
Met Val Val Thr Arg Ile Ala Pro Ser Pro Thr Gly Asp Pro His Val
1 5 10 15

Gly Thr Ala Tyr Ile Ala Leu Phe Asn Tyr Ala Trp Ala
20 25

<210> 156
<211> 30
<212> PRT
<213> Homo sapiens

<400> 156
Thr Thr Val His Thr Arg Phe Pro Pro Glu Pro Asn Gly Tyr Leu His
1 5 10 15

Ile Gly His Ala Lys Ser Ile Cys Leu Asn Phe Gly Ile Ala
20 25 30

<210> 157
<211> 30
<212> PRT
<213> Homo sapiens

<400> 157

```
Lys Ile Lys Leu Tyr Cys Gly Val Asp Pro Thr Ala Gln Ser Leu His
  1               5                  10                  15

Leu Gly Asn Leu Val Pro Met Val Leu Leu His Phe Tyr Val
             20                  25                  30
```

<210> 158
<211> 30
<212> PRT
<213> Homo sapiens

<400> 158

```
Pro Ile Ala Leu Tyr Cys Gly Phe Asp Pro Thr Ala Asp Ser Leu His
  1               5                  10                  15

Leu Gly His Leu Val Pro Leu Leu Cys Leu Lys Arg Gly Gln
             20                  25                  30
```

<210> 159
<211> 30
<212> PRT
<213> Homo sapiens

<400> 159

```
Arg Val Thr Leu Tyr Cys Gly Phe Asp Pro Thr Ala Asp Ser Leu His
  1               5                  10                  15

Ile Gly Asn Leu Ala Ala Ile Leu Thr Leu Arg Arg Phe Gln
             20                  25                  30
```

<210> 160
<211> 30
<212> PRT
<213> Homo sapiens

<400> 160

```
Arg Ile Gly Ala Tyr Val Gly Ile Asp Pro Thr Ala Pro Ser Leu His
  1               5                  10                  15

Val Gly His Leu Leu Pro Leu Met Pro Leu Phe Trp Met Tyr
             20                  25                  30
```

<210> 161
<211> 30

<212> PRT
<213> Homo sapiens

<400> 161
Pro Ile Ala Leu Tyr Cys Gly Phe Asp Pro Thr Ala Asp Ser Leu His
1 5 10 15

Leu Gly His Leu Val Pro Leu Leu Cys Leu Lys Arg Phe Gln
20 25 30

<210> 162
<211> 31
<212> PRT
<213> Homo sapiens

<400> 162
Pro Leu Lys Val Lys Leu Gly Ala Asp Pro Thr Ala Pro Asp Ile His
1 5 10 15

Ile Gly His His Thr Val Val Leu Asn Lys Leu Arg Gln Phe Gln
20 25 30

<210> 163
<211> 43
<212> PRT
<213> Homo sapiens

<400> 163
Val Ser Lys Gly Leu Leu Ile Phe Asp Ala Ser Ser Ser Met Gly Pro
1 5 10 15

Gln Met Ser Ala Ser Val His Leu Asp Ser Lys Lys Lys Gln His Leu
20 25 30

Phe Val Lys Glu Val Lys Ile Asp Gly Gln Phe
35 40

<210> 164
<211> 43
<212> PRT
<213> Homo sapiens

<400> 164
Thr Ile Ile Thr Thr Pro Pro Leu Lys Asp Phe Ser Leu Trp Glu Lys
1 5 10 15

Thr Gly Leu Lys Glu Phe Leu Lys Thr Thr Lys Gln Ser Phe Asp Leu
20 25 30

Ser Val Lys Ala Gln Tyr Lys Lys Asn Lys His
35 40

<210> 165
<211> 39
<212> PRT
<213> Homo sapiens

<400> 165
Lys Asn Arg Asn Asn Ala Leu Asp Phe Val Thr Lys Ser Tyr Asn Glu
1 5 10 15

Thr Lys Ile Lys Phe Asp Lys Tyr Lys Ala Glu Lys Ser Gln Asp Glu
20 25 30

Leu Pro Arg Thr Phe Gln Ile
35

<210> 166
<211> 36
<212> PRT
<213> Homo sapiens

<400> 166
Asp Ala Leu Gln Tyr Lys Leu Glu Gly Thr Thr Arg Leu Thr Arg Lys
1 5 10 15

Arg Gly Leu Lys Leu Ala Thr Ala Leu Ser Leu Ser Asn Lys Phe Val
20 25 30

Glu Gly Ser His
35

<210> 167
<211> 41
<212> PRT
<213> Homo sapiens

<400> 167
Arg Ala Phe Gly Trp Glu Ala Pro Arg Phe Tyr His Met Pro Leu Leu
1 5 10 15

```
Arg Asn Pro Asp Lys Thr Lys Ile Ser Lys Arg Lys Ser His Thr Ser
            20                  25                  30

Leu Asp Trp Lys Ala Glu Gly Phe Leu
        35                  40
```

<210> 168
<211> 42
<212> PRT
<213> Homo sapiens

<400> 168

```
Asp Asn Ile Thr Ile Pro Val His Pro Arg Gln Tyr Glu Phe Ser Arg
  1               5                  10                  15

Leu Asn Leu Glu Tyr Thr Val Met Ser Lys Arg Lys Leu Asn Leu Leu
            20                  25                  30

Val Thr Asp Lys His Val Glu Gly Trp Asp
        35                  40
```

<210> 169
<211> 40
<212> PRT
<213> Homo sapiens

<400> 169

```
Lys Asn Lys Gly Leu Pro Phe Gly Ile Thr Val Pro Leu Leu Thr Thr
  1               5                  10                  15

Ala Thr Gly Glu Lys Phe Gly Lys Ser Ala Gly Asn Ala Val Phe Ile
            20                  25                  30

Asp Pro Ser Ile Asn Thr Ala Tyr
        35                  40
```

<210> 170
<211> 41
<212> PRT
<213> Homo sapiens

<400> 170

```
Arg Leu His Gln Asn Gln Val Phe Gly Leu Thr Val Pro Leu Ile Thr
  1               5                  10                  15
```

```
Lys Ala Asp Gly Thr Lys Phe Gly Lys Thr Glu Gly Gly Ala Val Trp
             20                  25                  30

Leu Asp Pro Lys Lys Thr Ser Pro Tyr
         35                  40
```

<210> 171
<211> 42
<212> PRT
<213> Homo sapiens

<400> 171

```
Lys Thr Lys Gly Glu Ala Arg Ala Phe Gly Leu Thr Ile Pro Leu Val
  1               5                  10                  15

Thr Lys Ala Asp Gly Thr Lys Phe Gly Lys Thr Glu Ser Gly Thr Ile
             20                  25                  30

Trp Leu Asp Lys Glu Lys Thr Ser Pro Tyr
         35                  40
```

<210> 172
<211> 41
<212> PRT
<213> Homo sapiens

<400> 172

```
Lys Thr Ala Leu Asp Glu Cys Val Gly Phe Thr Val Pro Leu Leu Thr
  1               5                  10                  15

Asp Ser Ser Gly Ala Lys Phe Gly Lys Ser Ala Gly Asn Ala Ile Trp
             20                  25                  30

Leu Asp Pro Tyr Gln Thr Ser Val Phe
         35                  40
```

<210> 173
<211> 41
<212> PRT
<213> Homo sapiens

<400> 173

```
Arg Leu His Gln Asn Gln Val Phe Gly Leu Thr Val Pro Leu Ile Thr
  1               5                  10                  15
```

```
Lys Ala Asp Gly Thr Lys Phe Gly Lys Thr Glu Gly Gly Ala Val Trp
             20                  25                  30

Leu Asp Pro Lys Lys Thr Ser Pro Tyr
         35                  40
```

<210> 174
<211> 42
<212> PRT
<213> Homo sapiens

<400> 174

```
Ser Ala Gly Lys Lys Pro Gln Val Ala Ile Thr Leu Pro Leu Leu Val
  1               5                  10                  15

Gly Leu Asp Gly Glu Lys Lys Met Ser Lys Ser Leu Gly Asn Tyr Ile
             20                  25                  30

Gly Val Thr Glu Ala Pro Ser Asp Met Phe
         35                  40
```

<210> 175
<211> 35
<212> PRT
<213> Homo sapiens

<400> 175

```
Arg Val Ser Thr Ala Phe Val Tyr Thr Lys Asn Pro Asn Gly Tyr Ser
  1               5                  10                  15

Phe Ser Ile Pro Val Lys Val Leu Ala Asp Lys Phe Ile Thr Pro Gly
             20                  25                  30

Leu Lys Leu
         35
```

<210> 176
<211> 29
<212> PRT
<213> Homo sapiens

<400> 176

```
Lys Leu Gly Gln Gly Cys Phe Gly Glu Val Trp Met Gly Thr Trp Asn
  1               5                  10                  15
```

```
Gly Thr Thr Arg Val Ala Ile Lys Thr Leu Lys Pro Gly
             20                  25
```

<210> 177
<211> 4
<212> PRT
<213> Homo sapiens

<400> 177
```
His Ile Gly His
  1
```

<210> 178
<211> 17
<212> PRT
<213> Homo sapiens

<400> 178
```
His Lys Asn Thr Ser Thr Leu Ser Cys Asp Gly Ser Leu Arg His Lys
  1               5                  10                  15

Phe
```

<210> 179
<211> 17
<212> PRT
<213> Homo sapiens

<400> 179
```
Arg Lys Leu Lys His Ile Asn Ile Asp Gln Phe Val Arg Lys Tyr Arg
  1               5                  10                  15

Ala
```

<210> 180
<211> 18
<212> PRT
<213> Homo sapiens

<400> 180
```
Arg His Ile Gln Asn Ile Asp Ile Gln His Leu Ala Gly Lys Leu Lys
```

1 5 10 15

Gln His

<210> 181
<211> 17
<212> PRT
<213> Homo sapiens

<400> 181
Lys Lys Gly Phe Tyr Lys Lys Lys Gln Cys Arg Pro Ser Lys Gly Arg
1 5 10 15

Lys

<210> 182
<211> 18
<212> PRT
<213> Homo sapiens

<400> 182
Lys Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg
1 5 10 15

Glu Arg

<210> 183
<211> 17
<212> PRT
<213> Homo sapiens

<400> 183
Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys
1 5 10 15

Lys

<210> 184
<211> 17
<212> PRT

<213> Homo sapiens

<400> 184
Lys Lys Thr Asn Leu Phe Ser Ala Leu Ile Lys Lys Lys Lys Lys Thr
1 5 10 15

Ala

<210> 185
<211> 17
<212> PRT
<213> Homo sapiens

<400> 185
Arg Lys Thr Leu Leu Asn Ser Leu Glu Glu Ala Lys Lys Lys Lys Glu
1 5 10 15

Asp

<210> 186
<211> 17
<212> PRT
<213> Homo sapiens

<400> 186
Arg Arg Glu Leu Asp Glu Ser Leu Gln Val Ala Glu Arg Leu Thr Arg
1 5 10 15

Lys

<210> 187
<211> 17
<212> PRT
<213> Homo sapiens

<400> 187
Arg Arg Ser Tyr Ala Leu Val Ser Leu Ser Phe Phe Arg Lys Leu Arg
1 5 10 15

Leu

<210> 188
<211> 17
<212> PRT
<213> Homo sapiens

<400> 188
Arg Arg Tyr Gly Asp Glu Glu Leu His Leu Cys Val Ser Arg Lys His
1 5 10 15

Phe

<210> 189
<211> 17
<212> PRT
<213> Homo sapiens

<400> 189
Lys Arg Val Ala Lys Arg Lys Leu Ile Glu Gln Asn Arg Glu Arg Arg
1 5 10 15

Arg

<210> 190
<211> 17
<212> PRT
<213> Homo sapiens

<400> 190
His Arg Ser Thr Asn Ala Gln Gly Ser His Trp Lys Gln Arg Arg Lys
1 5 10 15

Phe

<210> 191
<211> 17
<212> PRT
<213> Homo sapiens

<400> 191
Lys Arg Pro Pro Ile Ser Asp Ser Glu Glu Leu Ser Ala Lys Lys Arg
1 5 10 15

Lys

<210> 192
<211> 17
<212> PRT
<213> Homo sapiens

<400> 192
Lys Lys Gly Lys Lys Pro Lys Thr Glu Lys Glu Asp Lys Val Lys His
1 5 10 15

Ile

<210> 193
<211> 17
<212> PRT
<213> Homo sapiens

<400> 193
Arg Lys Arg Met Arg Asn Arg Ile Ala Ala Ser Lys Cys Arg Lys Arg
1 5 10 15

Lys

<210> 194
<211> 18
<212> PRT
<213> Homo sapiens

<400> 194
Arg His Ile Gln Asn Ile Asp Ile Gln His Leu Ala Gly Lys Leu Lys
1 5 10 15

Gln His

<210> 195
<211> 21
<212> PRT
<213> Homo sapiens

<400> 195
Lys Lys Ile Thr Glu Val Ala Leu Met Gly His Leu Ser Cys Asp Thr
1 5 10 15

Lys Glu Glu Arg Lys
20

<210> 196
<211> 14
<212> PRT
<213> Homo sapiens

<400> 196
Lys His Ile Asn Ile Asp Gln Phe Val Arg Lys Tyr Arg Ala
1 5 10

<210> 197
<211> 21
<212> PRT
<213> Homo sapiens

<400> 197
His Arg Asn Ile Gln Glu Tyr Leu Ser Ile Leu Thr Asp Pro Asp Gly
1 5 10 15

Lys Gly Lys Glu Lys
20

<210> 198
<211> 18
<212> PRT
<213> Homo sapiens

<400> 198
Lys Glu Val Tyr Gly Phe Asn Pro Glu Gly Lys Ala Leu Leu Lys Lys
1 5 10 15

Thr Lys

<210> 199
<211> 18
<212> PRT

<213> Homo sapiens

<400> 199
Lys Val Leu Val Asp His Phe Gly Tyr Thr Lys Asp Asp Lys His Glu
1 5 10 15

Asp Met

<210> 200
<211> 18
<212> PRT
<213> Homo sapiens

<400> 200
Arg Gln Val Ser His Ala Lys Glu Lys Leu Thr Ala Leu Thr Lys Lys
1 5 10 15

Tyr Arg

<210> 201
<211> 18
<212> PRT
<213> Homo sapiens

<400> 201
Lys Tyr Gln Ile Arg Ile Gln Ile Gln Glu Lys Leu Gln Gln Leu Lys
1 5 10 15

Arg His

<210> 202
<211> 18
<212> PRT
<213> Homo sapiens

<400> 202
Lys Tyr Gln Ile Arg Ile Gln Ile Gln Glu Lys Leu Gln Gln Leu Lys
1 5 10 15

Arg His

<210> 203
<211> 20
<212> PRT
<213> Homo sapiens

<400> 203
Lys Gly Met Ala Leu Phe Gly Glu Gly Lys Ala Glu Phe Thr Gly Arg
1 5 10 15

His Asp Ala His
20

<210> 204
<211> 18
<212> PRT
<213> Homo sapiens

<400> 204
Lys Gln Ser Phe Asp Leu Ser Val Lys Ala Gln Tyr Lys Lys Asn Lys
1 5 10 15

His Arg

<210> 205
<211> 15
<212> PRT
<213> Homo sapiens

<400> 205
Lys Leu Glu Gly Thr Thr Arg Leu Thr Arg Lys Arg Gly Leu Lys
1 5 10 15

<210> 206
<211> 15
<212> PRT
<213> Homo sapiens

<400> 206
Lys Leu Asp Val Thr Thr Ser Ile Gly Arg Arg Gln His Leu Arg
1 5 10 15

<210> 207

<211> 15
<212> PRT
<213> Homo sapiens

<400> 207
Lys Lys Leu Asp Phe Arg Glu Ile Gln Ile Tyr Lys Lys Leu Arg
1 5 10 15

<210> 208
<211> 16
<212> PRT
<213> Homo sapiens

<400> 208
Lys Ser Pro Ala Thr Asp Leu His Leu Arg Tyr Gln Lys Asp Lys Lys
1 5 10 15

<210> 209
<211> 20
<212> PRT
<213> Homo sapiens

<400> 209
Lys Tyr His Trp Glu His Thr Gly Leu Thr Leu Arg Glu Val Ser Ser
1 5 10 15

Lys Leu Arg Arg
20

<210> 210
<211> 21
<212> PRT
<213> Homo sapiens

<400> 210
Lys Asp Asn Val Phe Asp Gly Leu Val Arg Val Thr Gln Lys Phe His
1 5 10 15

Met Lys Val Lys His
20

<210> 211
<211> 180
<212> PRT

<213> Homo sapiens

<400> 211

```
Ser Ile Asn Leu Pro Phe Phe Glu Thr Leu Gln Glu Tyr Phe Glu Arg
  1               5                  10                  15

Asn Arg Gln Thr Ile Ile Val Val Val Glu Asn Val Gln Arg Asn Leu
             20                  25                  30

Lys His Ile Asn Ile Asp Gln Phe Val Arg Lys Tyr Arg Ala Ala Leu
         35                  40                  45

Gly Lys Leu Pro Gln Gln Ala Asn Asp Tyr Leu Asn Ser Phe Asn Trp
     50                  55                  60

Glu Arg Gln Val Ser His Ala Lys Glu Lys Leu Thr Ala Leu Thr Lys
 65                  70                  75                  80

Lys Tyr Arg Ile Thr Glu Asn Asp Ile Gln Ile Ala Leu Asp Asp Ala
                 85                  90                  95

Lys Ile Asn Phe Asn Glu Lys Leu Ser Gln Leu Gln Thr Tyr Met Ile
            100                 105                 110

Gln Phe Asp Gln Tyr Ile Lys Asp Ser Tyr Asp Leu His Asp Leu Lys
        115                 120                 125

Ile Ala Ile Ala Asn Ile Ile Asp Glu Ile Ile Glu Lys Leu Lys Ser
    130                 135                 140

Leu Asp Glu His Tyr His Ile Arg Val Asn Leu Val Lys Thr Ile His
145                 150                 155                 160

Asp Leu His Leu Phe Ile Glu Asn Ile Asp Phe Asn Lys Ser Gly Ser
                165                 170                 175

Ser Thr Ala Ser
            180
```

<210> 212
<211> 94
<212> PRT
<213> Homo sapiens

<400> 212

```
Pro Gln Gln Val Asn Asp Tyr Leu Ser Thr Phe Ser Trp Glu Arg Gln
  1               5                  10                  15
```

```
Val Leu Ser Ala Lys Lys Lys His Ser Asp Phe Met Glu Asp Tyr Arg
             20                  25                  30

Ile Thr Glu Asn Asp Val Arg Ile Ala Leu Asp Asn Ala Lys Ile Asn
         35                  40                  45

Leu Asn Glu Lys Leu Thr Gln Leu Gln Thr Tyr Val Ile Gln Phe Asp
     50                  55                  60

Gln Tyr Ile Lys Asp Asn Tyr Asp Leu His Asp Phe Lys Thr Ala Ile
 65                  70                  75                  80

Ala Arg Ile Ile Asp Glu Ile Ile Ala Thr Leu Lys Ile Leu
                 85                  90
```

<210> 213
<211> 85
<212> PRT
<213> Homo sapiens

<400> 213

```
Lys Tyr Arg Val Ala Leu Ser Arg Leu Pro Gln Gln Ile His Asp Tyr
  1               5                  10                  15

Leu Asn Ala Ser Asp Trp Glu Arg Gln Val Ala Gly Ala Lys Glu Lys
             20                  25                  30

Leu Thr Ser Phe Met Glu Asn Tyr Arg Ile Thr Asp Asn Asp Val Leu
         35                  40                  45

Ile Ala Leu Asp Ser Ala Lys Ile Asn Leu Asn Glu Lys Leu Ser Gln
     50                  55                  60

Leu Glu Thr Tyr Ala Ile Gln Phe Asp Gln Tyr Ile Arg Asp Asn Tyr
 65                  70                  75                  80

Asp Ala Gln Asp Leu
                 85
```

<210> 214
<211> 840
<212> PRT
<213> Homo sapiens

<400> 214

```
Leu Asn Asp Phe Gln Val Pro Asp Leu His Ile Pro Glu Phe Gln Leu
 1               5                  10                  15

Pro His Ile Ser His Thr Ile Glu Val Pro Thr Phe Gly Lys Leu Tyr
            20                  25                  30

Ser Ile Leu Lys Ile Gln Ser Pro Leu Phe Thr Leu Asp Ala Asn Ala
        35                  40                  45

Asp Ile Gly Asn Gly Thr Thr Ser Ala Asn Glu Ala Gly Ile Ala Ala
    50                  55                  60

Ser Ile Thr Ala Lys Gly Glu Ser Lys Leu Glu Val Leu Asn Phe Asp
65                  70                  75                  80

Phe Gln Ala Asn Ala Gln Leu Ser Asn Pro Lys Ile Asn Pro Leu Ala
                85                  90                  95

Leu Lys Glu Ser Val Lys Phe Ser Ser Lys Tyr Leu Arg Thr Glu His
            100                 105                 110

Gly Ser Glu Met Leu Phe Phe Gly Asn Ala Ile Glu Gly Lys Ser Asn
        115                 120                 125

Thr Val Ala Ser Leu His Thr Glu Lys Asn Thr Leu Glu Leu Ser Asn
    130                 135                 140

Gly Val Ile Val Lys Ile Asn Asn Gln Leu Thr Leu Asp Ser Asn Thr
145                 150                 155                 160

Lys Tyr Phe His Lys Leu Asn Ile Pro Lys Leu Asp Phe Ser Ser Gln
                165                 170                 175

Ala Asp Leu Arg Asn Glu Ile Lys Thr Leu Leu Lys Ala Gly His Ile
            180                 185                 190

Ala Trp Thr Ser Ser Gly Lys Gly Ser Trp Lys Trp Ala Cys Pro Arg
        195                 200                 205

Phe Ser Asp Glu Gly Thr His Glu Ser Gln Ile Ser Phe Thr Ile Glu
    210                 215                 220

Gly Pro Leu Thr Ser Phe Gly Leu Ser Asn Lys Ile Asn Ser Lys His
225                 230                 235                 240

Leu Arg Val Asn Gln Asn Leu Val Tyr Glu Ser Gly Ser Leu Asn Phe
                245                 250                 255
```

```
Ser Lys Leu Glu Ile Gln Ser Gln Val Asp Ser Gln His Val Gly His
            260                 265                 270

Ser Val Leu Thr Ala Lys Gly Met Ala Leu Phe Gly Glu Gly Lys Ala
        275                 280                 285

Glu Phe Thr Gly Arg His Asp Ala His Leu Asn Gly Lys Val Ile Gly
    290                 295                 300

Thr Leu Lys Asn Ser Leu Phe Phe Ser Ala Gln Pro Phe Glu Ile Thr
305                 310                 315                 320

Ala Ser Thr Asn Asn Glu Gly Asn Leu Lys Val Arg Phe Pro Leu Arg
                325                 330                 335

Leu Thr Gly Lys Ile Asp Phe Leu Asn Asn Tyr Ala Leu Phe Leu Ser
            340                 345                 350

Pro Ser Ala Gln Gln Ala Ser Trp Gln Val Ser Ala Arg Phe Asn Gln
        355                 360                 365

Tyr Lys Tyr Asn Gln Asn Phe Ser Ala Gly Asn Asn Glu Asn Ile Met
    370                 375                 380

Glu Ala His Val Gly Ile Asn Gly Glu Ala Asn Leu Asp Phe Leu Asn
385                 390                 395                 400

Ile Pro Leu Thr Ile Pro Glu Met Arg Leu Pro Tyr Thr Ile Ile Thr
                405                 410                 415

Thr Pro Pro Leu Lys Asp Phe Ser Leu Trp Glu Lys Thr Gly Leu Lys
            420                 425                 430

Glu Phe Leu Lys Thr Thr Lys Gln Ser Phe Asp Leu Ser Val Lys Ala
        435                 440                 445

Gln Tyr Lys Lys Asn Lys His Arg His Ser Ile Thr Asn Pro Leu Ala
    450                 455                 460

Val Leu Cys Glu Phe Ile Ser Gln Ser Ile Lys Ser Phe Asp Arg His
465                 470                 475                 480

Phe Glu Lys Asn Arg Asn Asn Ala Leu Asp Phe Val Thr Lys Ser Tyr
                485                 490                 495

Asn Glu Thr Lys Ile Lys Phe Asp Lys Tyr Lys Ala Glu Lys Ser His
            500                 505                 510
```

```
Asp Glu Leu Pro Arg Thr Phe Gln Ile Pro Gly Tyr Thr Val Pro Val
        515                 520                 525

Val Asn Val Glu Val Ser Pro Phe Thr Ile Glu Met Ser Ala Phe Gly
    530                 535                 540

Tyr Val Phe Pro Lys Ala Val Ser Met Pro Ser Phe Ser Ile Leu Gly
545                 550                 555                 560

Ser Asp Val Arg Val Pro Ser Tyr Thr Leu Ile Leu Pro Ser Leu Glu
                565                 570                 575

Leu Pro Val Leu His Val Pro Arg Asn Leu Lys Leu Ser Leu Pro His
            580                 585                 590

Phe Lys Glu Leu Cys Thr Ile Ser His Ile Phe Ile Pro Ala Met Gly
        595                 600                 605

Asn Ile Thr Tyr Asp Phe Ser Phe Lys Ser Ser Val Ile Thr Leu Asn
    610                 615                 620

Thr Asn Ala Glu Leu Phe Asn Gln Ser Asp Ile Val Ala His Leu Leu
625                 630                 635                 640

Ser Ser Ser Ser Ser Val Ile Asp Ala Leu Gln Tyr Lys Leu Glu Gly
                645                 650                 655

Thr Thr Arg Leu Thr Arg Lys Arg Gly Leu Lys Leu Ala Thr Ala Leu
            660                 665                 670

Ser Leu Ser Asn Lys Phe Val Glu Gly Ser His Asn Ser Thr Val Ser
        675                 680                 685

Leu Thr Thr Lys Asn Met Glu Val Ser Val Ala Lys Thr Thr Lys Ala
    690                 695                 700

Glu Ile Pro Ile Leu Arg Met Asn Phe Lys Gln Glu Leu Asn Gly Asn
705                 710                 715                 720

Thr Lys Ser Lys Pro Thr Val Ser Ser Ser Met Glu Phe Lys Tyr Asp
                725                 730                 735

Phe Asn Ser Ser Met Leu Tyr Ser Thr Ala Lys Gly Ala Val Asp His
            740                 745                 750

Lys Leu Ser Leu Glu Ser Leu Thr Ser Tyr Phe Ser Ile Glu Ser Ser
        755                 760                 765
```

```
Thr Lys Gly Asp Val Lys Gly Ser Val Leu Ser Arg Glu Tyr Ser Gly
    770                 775                 780

Thr Ile Ala Ser Glu Ala Asn Thr Tyr Leu Asn Ser Lys Ser Thr Arg
785                 790                 795                 800

Ser Ser Val Lys Leu Gln Gly Thr Ser Lys Ile Asp Asp Ile Trp Asn
                805                 810                 815

Leu Glu Val Lys Glu Asn Phe Ala Gly Glu Ala Thr Leu Gln Arg Ile
            820                 825                 830

Tyr Ser Leu Trp Glu His Ser Thr
        835                 840
```

<210> 215
<211> 773
<212> PRT
<213> Homo sapiens

<400> 215

```
Glu Phe Gln Leu Pro Arg Leu Ser His Thr Ile Glu Ile Pro Ala Phe
  1               5                  10                  15

Gly Arg Leu His Gly Ile Leu Lys Ile Gln Ser Pro Leu Phe Ile Leu
             20                  25                  30

Asp Ala Asn Ala Asn Ile Gln Asn Val Thr Thr Leu Glu Asn Lys Ala
         35                  40                  45

Glu Ile Val Ala Ser Ile Ala Ala Thr Gly Glu Ser Glu Ile Glu Ala
     50                  55                  60

Leu Asn Phe Asp Phe Gln Ala Gln Ala Gln Phe Leu Glu Leu Asn Pro
 65                  70                  75                  80

Asn Pro Leu Ile Leu Lys Glu Ser Met Asn Phe Ser Ser Lys His Ala
                85                  90                  95

Arg Met Glu His Glu Gly Glu Ile Leu Phe Ser Gly Lys Phe Ile Glu
            100                 105                 110

Gly Lys Leu Asp Thr Val Ala Ser Leu Gln Thr Glu Lys Asn Met Val
        115                 120                 125

Glu Phe Asn Asn Gly Met Ile Val Lys Ile Asn Asn Pro Ile Ile Leu
    130                 135                 140
```

```
Asp Ser His Thr Lys Tyr Phe His Lys Leu Ser Ile Pro Arg Leu Asp
145                 150                 155                 160

Phe Ser Ser Lys Ala Ser Phe Asn Asn Glu Ile Lys Met Leu Leu Glu
                165                 170                 175

Ala Gly His Val Ala Trp Thr Ser Ser Gly Thr Gly Ser Trp Asn Trp
            180                 185                 190

Ala Cys Pro Asn Phe Ser Asp Glu Gly Thr His Ser Ser Lys Ile Ser
        195                 200                 205

Phe Thr Val Glu Gly Pro Ile Ala Phe Phe Gly Leu Ser Asn Asn Ile
    210                 215                 220

Asn Gly Lys His Leu Arg Val Ile Gln Lys Leu Ala Tyr Glu Ser Gly
225                 230                 235                 240

Phe Leu Asn Tyr Ser Met Leu Glu Val Glu Ser Lys Val Glu Ser Gln
                245                 250                 255

His Val Gly Ser Ser Ile Leu Thr Gly Lys Gly Thr Val Leu Leu Arg
            260                 265                 270

Glu Ala Lys Ala Glu Met Thr Gly Glu His Asn Ala Asp Leu Asn Gly
        275                 280                 285

Lys Val Ile Gly Thr Leu Lys Asn Ser Leu Ser Phe Ser Ala Gln Pro
    290                 295                 300

Phe Met Ile Thr Ala Ser Thr Asn Asn Asp Gly Asn Leu Lys Val Ser
305                 310                 315                 320

Phe Pro Leu Lys Leu Thr Gly Lys Ile Asp Phe Leu Asn Asn Tyr Ala
                325                 330                 335

Leu Phe Leu Ser Pro His Ala Gln Gln Ala Ser Trp Gln Val Ser Ala
            340                 345                 350

Arg Phe Asn Tyr Lys Tyr Asn Gln Asn Phe Ser Ala Ile Asn Asn Glu
        355                 360                 365

His Asn Ile Glu Ala His Val Gly Met Asn Gly Asp Ala Asn Leu Asp
    370                 375                 380

Phe Leu Thr Ile Pro Leu Thr Ile Pro Glu Val Lys Leu Pro Tyr Ile
385                 390                 395                 400
```

```
Gly Leu Thr Thr Pro Leu Leu Lys Asp Phe Ser Ile Trp Glu Glu Thr
                405                 410                 415

Gly Leu Lys Lys Gln Ser Phe Asp Leu Ser Val Lys Ala Gln Tyr Lys
            420                 425                 430

Lys Asn Arg Asp Arg His Ser Ile Ala Ile Pro Leu Asn Gly Phe Tyr
        435                 440                 445

Glu Phe Ile Leu Asn Asn Val Asp Ser Gly Ile Gly Lys Ile Gly Lys
    450                 455                 460

Val Arg Asp Ser Ala Leu Asp Tyr Leu Ile Ser Ser Tyr Asn Glu Ala
465                 470                 475                 480

Lys Asn Lys Phe Glu Asn Ser Leu Ile Gln Pro Ser Arg Thr Phe Gln
                485                 490                 495

Lys Arg Gly Tyr Thr Ile Pro Phe Val Asn Ile Glu Val Thr Pro Phe
            500                 505                 510

Thr Val Glu Thr Leu Ala Ser Ser His Val Ile Pro Lys Ala Ile Asn
        515                 520                 525

Thr Pro Ser Val His Ile Leu Gly Pro Asn Val Ile Val Pro Ser Tyr
    530                 535                 540

Arg Leu Val Leu Pro Ser Leu Glu Leu Pro Val Leu Arg Val Pro Arg
545                 550                 555                 560

Asn Leu Leu Lys Phe Ser Leu Pro Asp Phe Lys Glu Leu Arg Thr Ile
                565                 570                 575

Asp Asn Ile Tyr Ile Pro Ala Leu Gly Asn Phe Thr Tyr Asp Phe Ser
            580                 585                 590

Phe Lys Ser Ser Val Ile Thr Leu Asn Thr Asn Val Gly Leu Tyr Asn
        595                 600                 605

Arg Ser Asp Ile Val Ala His Phe Leu Ser Ser Ser Ser Phe Val Thr
    610                 615                 620

Asp Ala Leu Gln Tyr Lys Leu Glu Gly Thr Ser Arg Leu Thr Arg Lys
625                 630                 635                 640

Arg Gly Leu Lys Leu Ala Thr Ala Asp Ser Leu Thr Asn Lys Phe Val
                645                 650                 655
```

```
Lys Gly Asn His Asp Ser Thr Phe Ser Leu Thr Lys Lys Asn Met Glu
            660                 665                 670

Ala Ser Val Lys Thr Thr Ala Asn Leu His Ala Pro Ile Leu Thr Met
        675                 680                 685

Asn Phe Lys Gln Glu Leu Asn Gly Asn Ala Lys Ser Lys Pro Ile Val
    690                 695                 700

Ser Ser Ser Ile Glu Leu Asn Tyr Asp Phe Asn Ser Ser Lys Leu Tyr
705                 710                 715                 720

Ser Thr Ala Lys Gly Gly Val Asp His Lys Phe Ser Leu Glu Ser Leu
                725                 730                 735

Thr Ser Tyr Phe Ser Ile Glu Ser Ser Thr Lys Gly Asn Ile Lys Gly
            740                 745                 750

Ser Val Leu Ser Gln Glu Tyr Ser Gly Ser Val Ala Ser Glu Ala Asn
        755                 760                 765

Thr Tyr Leu Asn Ser
    770
```

<210> 216
<211> 785
<212> PRT
<213> Homo sapiens

<400> 216

```
Glu Phe Gln Leu Pro His Leu Ser His Thr Ile Glu Ile Pro Ala Phe
  1               5                  10                  15

Gly Lys Leu His Ser Ile Leu Lys Ile Gln Ser Pro Leu Phe Ile Leu
             20                  25                  30

Asp Ala Asn Ala Asn Ile Gln Asn Val Thr Thr Ser Gly Asn Lys Ala
         35                  40                  45

Glu Ile Val Ala Ser Val Thr Ala Lys Gly Glu Ser Gln Phe Glu Ala
     50                  55                  60

Leu Asn Phe Asp Phe Gln Ala Gln Ala Gln Phe Leu Glu Leu Asn Pro
 65                  70                  75                  80

His Pro Pro Val Leu Lys Glu Ser Met Asn Phe Ser Ser Lys His Val
```

```
                85                  90                  95

Arg Met Glu His Glu Gly Glu Ile Val Phe Asp Gly Lys Ala Ile Glu
            100                 105                 110

Gly Lys Ser Asp Thr Val Ala Ser Leu His Thr Glu Lys Asn Glu Val
        115                 120                 125

Glu Phe Asn Asn Gly Met Thr Val Lys Val Asn Asn Gln Leu Thr Leu
    130                 135                 140

Asp Ser His Thr Lys Tyr Phe His Lys Leu Ser Val Pro Arg Leu Asp
145                 150                 155                 160

Phe Ser Ser Lys Ala Ser Leu Asn Asn Glu Ile Lys Thr Leu Leu Glu
                165                 170                 175

Ala Gly His Val Ala Leu Thr Ser Ser Gly Thr Gly Ser Trp Asn Trp
            180                 185                 190

Ala Cys Pro Asn Phe Ser Asp Glu Gly Ile His Ser Ser Gln Ile Ser
        195                 200                 205

Phe Thr Val Asp Gly Pro Ile Ala Phe Val Gly Leu Ser Asn Asn Ile
    210                 215                 220

Asn Gly Lys His Leu Arg Val Ile Gln Lys Leu Thr Tyr Glu Ser Gly
225                 230                 235                 240

Phe Leu Asn Tyr Ser Lys Phe Glu Val Glu Ser Lys Val Glu Ser Gln
                245                 250                 255

His Val Gly Ser Ser Ile Leu Thr Ala Asn Gly Arg Ala Leu Leu Lys
            260                 265                 270

Asp Ala Lys Ala Glu Met Thr Gly Glu His Asn Ala Asn Leu Asn Gly
        275                 280                 285

Lys Val Ile Gly Thr Leu Lys Asn Ser Leu Phe Phe Ser Ala Gln Pro
    290                 295                 300

Phe Glu Ile Thr Ala Ser Thr Asn Asn Glu Gly Asn Leu Lys Val Gly
305                 310                 315                 320

Phe Pro Leu Lys Leu Thr Gly Lys Ile Asp Phe Leu Asn Asn Tyr Ala
                325                 330                 335

Leu Phe Leu Ser Pro Arg Ala Gln Gln Ala Ser Trp Gln Ala Ser Thr
```

```
            340                 345                 350

Arg Phe Asn Gln Tyr Lys Tyr Asn Gln Asn Phe Ser Ala Ile Asn Asn
        355                 360                 365

Glu His Asn Ile Glu Ala Ser Ile Gly Met Asn Gly Asp Ala Asn Leu
    370                 375                 380

Asp Phe Leu Asn Ile Pro Leu Thr Ile Pro Glu Ile Asn Leu Pro Tyr
385                 390                 395                 400

Thr Glu Phe Lys Thr Pro Leu Leu Lys Asp Phe Ser Ile Trp Glu Glu
                405                 410                 415

Thr Gly Leu Lys Glu Phe Leu Lys Thr Thr Lys Gln Ser Phe Asp Leu
            420                 425                 430

Ser Val Lys Ala Gln Tyr Lys Lys Asn Ser Asp Lys His Ser Ile Val
        435                 440                 445

Val Pro Leu Gly Met Phe Tyr Glu Phe Ile Leu Asn Asn Val Asn Ser
    450                 455                 460

Trp Asp Arg Lys Phe Glu Lys Val Arg Asn Asn Ala Leu His Phe Leu
465                 470                 475                 480

Thr Thr Ser Tyr Asn Glu Ala Lys Ile Lys Val Asp Lys Tyr Lys Thr
                485                 490                 495

Glu Asn Ser Leu Asn Gln Pro Ser Gly Thr Phe Gln Asn His Gly Tyr
            500                 505                 510

Thr Ile Pro Val Val Asn Ile Glu Val Ser Pro Phe Ala Val Glu Thr
        515                 520                 525

Leu Ala Ser Arg His Val Ile Pro Thr Ala Ile Ser Thr Pro Ser Val
    530                 535                 540

Thr Ile Pro Gly Pro Asn Ile Met Val Pro Ser Tyr Lys Leu Val Leu
545                 550                 555                 560

Pro Pro Leu Glu Leu Pro Val Phe His Gly Pro Gly Asn Leu Phe Lys
                565                 570                 575

Phe Phe Leu Pro Asp Phe Lys Gly Phe Asn Thr Ile Asp Asn Ile Tyr
            580                 585                 590

Ile Pro Ala Met Gly Asn Phe Thr Tyr Asp Phe Ser Phe Lys Ser Ser
```

595 600 605

Val Ile Thr Leu Asn Thr Asn Ala Gly Leu Tyr Asn Gln Ser Asp Ile
610 615 620

Val Ala His Phe Leu Ser Ser Ser Ser Phe Val Thr Asp Ala Leu Gln
625 630 635 640

Tyr Lys Leu Glu Gly Thr Ser Arg Leu Met Arg Lys Arg Gly Leu Lys
645 650 655

Leu Ala Thr Ala Val Ser Leu Thr Asn Lys Phe Val Lys Gly Ser His
660 665 670

Asp Ser Thr Ile Ser Leu Thr Lys Lys Asn Met Glu Ala Ser Val Arg
675 680 685

Thr Thr Ala Asn Leu His Ala Pro Ile Phe Ser Met Asn Phe Lys Gln
690 695 700

Glu Leu Asn Gly Asn Thr Lys Ser Lys Pro Thr Val Ser Ser Ser Ile
705 710 715 720

Glu Leu Asn Tyr Asp Phe Asn Ser Ser Lys Leu His Ser Thr Ala Thr
725 730 735

Gly Gly Ile Asp His Lys Phe Ser Leu Glu Ser Leu Thr Ser Tyr Phe
740 745 750

Ser Ile Glu Ser Phe Thr Lys Gly Asn Ile Lys Ser Ser Phe Leu Ser
755 760 765

Gln Glu Tyr Ser Gly Ser Val Ala Asn Glu Ala Asn Val Tyr Leu Asn
770 775 780

Ser
785

<210> 217
<211> 1056
<212> PRT
<213> Homo sapiens

<400> 217
Glu Tyr Ser Gly Thr Ile Ala Ser Glu Ala Asn Thr Tyr Leu Asn Ser
1 5 10 15

```
Lys Ser Thr Arg Ser Ser Val Lys Leu Gln Gly Thr Ser Lys Ile Asp
             20                  25                  30

Asp Ile Trp Asn Leu Glu Val Lys Glu Asn Phe Ala Gly Glu Ala Thr
         35                  40                  45

Leu Gln Arg Ile Tyr Ser Leu Trp Glu His Ser Thr Lys Asn His Leu
     50                  55                  60

Gln Leu Glu Gly Leu Phe Phe Thr Asn Gly Glu His Thr Ser Lys Ala
 65                  70                  75                  80

Thr Leu Glu Leu Ser Pro Trp Gln Met Ser Ala Leu Val Gln Val His
                 85                  90                  95

Ala Ser Gln Pro Ser Ser Phe His Asp Phe Pro Asp Leu Gly Gln Glu
            100                 105                 110

Val Ala Leu Asn Ala Asn Thr Lys Asn Gln Lys Ile Arg Trp Lys Asn
        115                 120                 125

Glu Val Arg Ile His Ser Gly Ser Phe Gln Ser Gln Val Glu Leu Ser
    130                 135                 140

Asn Asp Gln Glu Lys Ala His Leu Asp Ile Ala Gly Ser Leu Glu Gly
145                 150                 155                 160

His Leu Arg Phe Leu Lys Asn Ile Ile Leu Pro Val Tyr Asp Lys Ser
                165                 170                 175

Leu Trp Asp Phe Leu Lys Leu Asp Val Thr Thr Ser Ile Gly Arg Arg
            180                 185                 190

Gln His Leu Arg Val Ser Thr Ala Phe Val Tyr Thr Lys Asn Pro Asn
        195                 200                 205

Gly Tyr Ser Phe Ser Ile Pro Val Lys Val Leu Ala Asp Lys Phe Ile
    210                 215                 220

Thr Pro Gly Leu Lys Leu Asn Asp Leu Asn Ser Val Leu Val Met Pro
225                 230                 235                 240

Thr Phe His Val Pro Phe Thr Asp Leu Gln Val Pro Ser Cys Lys Leu
                245                 250                 255

Asp Phe Arg Glu Ile Gln Ile Tyr Lys Lys Leu Arg Thr Ser Ser Phe
            260                 265                 270
```

```
Ala Leu Asn Leu Pro Thr Leu Pro Glu Val Lys Phe Pro Glu Val Asp
        275                 280                 285

Val Leu Thr Lys Tyr Ser Gln Pro Glu Asp Ser Leu Ile Pro Phe Phe
    290                 295                 300

Glu Ile Thr Val Pro Glu Ser Gln Leu Thr Val Ser Gln Phe Thr Leu
305                 310                 315                 320

Pro Lys Ser Val Ser Asp Gly Ile Ala Ala Leu Asp Leu Asn Ala Val
                325                 330                 335

Ala Asn Lys Ile Ala Asp Phe Glu Leu Pro Thr Ile Ile Val Pro Glu
            340                 345                 350

Gln Thr Ile Glu Ile Pro Ser Ile Lys Phe Ser Val Pro Ala Gly Ile
        355                 360                 365

Val Ile Pro Ser Phe Gln Ala Leu Thr Ala Arg Phe Glu Val Asp Ser
    370                 375                 380

Pro Val Tyr Asn Ala Thr Trp Ser Ala Ser Leu Lys Asn Lys Ala Asp
385                 390                 395                 400

Tyr Val Glu Thr Val Leu Asp Ser Thr Cys Ser Ser Thr Val Gln Phe
                405                 410                 415

Leu Glu Tyr Glu Leu Asn Val Leu Gly Thr His Lys Ile Glu Asp Gly
            420                 425                 430

Thr Leu Ala Ser Lys Thr Lys Gly Thr Leu Ala His Arg Asp Phe Ser
        435                 440                 445

Ala Glu Tyr Glu Glu Asp Gly Lys Phe Glu Gly Leu Gln Glu Trp Glu
    450                 455                 460

Gly Lys Ala His Leu Asn Ile Lys Ser Pro Ala Phe Thr Asp Leu His
465                 470                 475                 480

Leu Arg Tyr Gln Lys Asp Lys Lys Gly Ile Ser Thr Ser Ala Ala Ser
                485                 490                 495

Pro Ala Val Gly Thr Val Gly Met Asp Met Asp Glu Asp Asp Asp Phe
            500                 505                 510

Ser Lys Trp Asn Phe Tyr Tyr Ser Pro Gln Ser Ser Pro Asp Lys Lys
        515                 520                 525
```

```
Leu Thr Ile Phe Lys Thr Glu Leu Arg Val Arg Glu Ser Asp Glu Glu
    530                 535                 540

Thr Gln Ile Lys Val Asn Trp Glu Glu Glu Ala Ala Ser Gly Leu Leu
545                 550                 555                 560

Thr Ser Leu Lys Asp Asn Val Pro Lys Ala Thr Gly Val Leu Tyr Asp
                565                 570                 575

Tyr Val Asn Lys Tyr His Trp Glu His Thr Gly Leu Thr Leu Arg Glu
            580                 585                 590

Val Ser Ser Lys Leu Arg Arg Asn Leu Gln Asn Asn Ala Glu Trp Val
        595                 600                 605

Tyr Gln Gly Ala Ile Arg Gln Ile Asp Asp Ile Asp Val Arg Phe Gln
    610                 615                 620

Lys Ala Ala Ser Gly Thr Thr Gly Thr Tyr Gln Glu Trp Lys Asp Lys
625                 630                 635                 640

Ala Gln Asn Leu Tyr Gln Glu Leu Leu Thr Gln Glu Gly Gln Ala Ser
                645                 650                 655

Phe Gln Gly Leu Lys Asp Asn Val Phe Asp Gly Leu Val Arg Val Thr
            660                 665                 670

Gln Lys Phe His Met Lys Val Lys His Leu Ile Asp Ser Leu Ile Asp
        675                 680                 685

Phe Leu Asn Phe Pro Arg Phe Gln Phe Pro Gly Lys Pro Gly Ile Tyr
    690                 695                 700

Thr Arg Glu Glu Leu Cys Thr Met Phe Ile Arg Glu Val Gly Thr Val
705                 710                 715                 720

Leu Ser Gln Val Tyr Ser Lys Val His Asn Gly Ser Glu Ile Leu Phe
                725                 730                 735

Ser Tyr Phe Gln Asp Leu Val Ile Thr Leu Pro Phe Glu Leu Arg Lys
            740                 745                 750

His Lys Leu Ile Asp Val Ile Ser Met Tyr Arg Glu Leu Leu Lys Asp
        755                 760                 765

Leu Ser Lys Glu Ala Gln Glu Val Phe Lys Ala Ile Gln Ser Leu Lys
    770                 775                 780
```

```
Thr Thr Glu Val Leu Arg Asn Leu Gln Asp Leu Leu Gln Phe Ile Phe
785                 790                 795                 800

Gln Leu Ile Glu Asp Asn Ile Lys Gln Leu Lys Glu Met Lys Phe Thr
                805                 810                 815

Tyr Leu Ile Asn Tyr Ile Gln Asp Glu Ile Asn Thr Ile Phe Asn Asp
            820                 825                 830

Tyr Ile Pro Tyr Val Phe Lys Leu Leu Lys Glu Asn Leu Cys Leu Asn
        835                 840                 845

Leu His Lys Phe Asn Glu Phe Ile Gln Asn Glu Leu Gln Glu Ala Ser
    850                 855                 860

Gln Glu Leu Gln Gln Ile His Gln Tyr Ile Met Ala Leu Arg Glu Glu
865                 870                 875                 880

Tyr Phe Asp Pro Ser Ile Val Gly Trp Thr Val Lys Tyr Tyr Glu Leu
                885                 890                 895

Glu Glu Lys Ile Val Ser Leu Ile Lys Asn Leu Leu Val Ala Leu Lys
            900                 905                 910

Asp Phe His Ser Glu Tyr Ile Val Ser Ala Ser Asn Phe Thr Ser Gln
        915                 920                 925

Leu Ser Ser Gln Val Glu Gln Phe Leu His Arg Asn Ile Gln Glu Tyr
    930                 935                 940

Leu Ser Ile Leu Thr Asp Pro Asp Gly Lys Gly Lys Glu Lys Ile Ala
945                 950                 955                 960

Glu Leu Ser Ala Thr Ala Gln Glu Ile Ile Lys Ser Gln Ala Ile Ala
                965                 970                 975

Thr Lys Lys Ile Ile Ser Asp Tyr His Gln Gln Phe Arg Tyr Lys Leu
            980                 985                 990

Gln Asp Phe Ser Asp Gln Leu Ser Asp Tyr Tyr Glu Lys Phe Ile Ala
        995                1000                1005

Glu Ser Lys Arg Leu Ile Asp Leu Ser Ile Gln Asn Tyr His Thr Phe
   1010                1015                1020

Leu Ile Tyr Ile Thr Glu Leu Leu Lys Lys Leu Gln Ser Thr Thr Val
1025                1030                1035                1040
```

```
Met Asn Pro Tyr Met Lys Leu Ala Pro Gly Glu Leu Thr Ile Ile Leu
               1045                1050                1055
```

<210> 218
<211> 989
<212> PRT
<213> Homo sapiens

<400> 218

```
Asn Ser Lys Gly Thr Arg Ser Ser Val Arg Leu Gln Gly Ala Ser Asn
  1               5                  10                  15

Phe Ala Gly Ile Trp Asn Phe Glu Val Gly Glu Asn Phe Ala Gly Glu
             20                  25                  30

Ala Thr Leu Arg Arg Ile Tyr Gly Thr Trp Glu His Asn Met Ile Asn
         35                  40                  45

His Leu Gln Val Phe Ser Tyr Phe Asp Thr Lys Gly Lys Gln Thr Cys
     50                  55                  60

Arg Ala Thr Leu Glu Leu Ser Pro Trp Thr Met Ser Thr Leu Leu Gln
 65                  70                  75                  80

Val His Val Ser Gln Pro Ser Pro Leu Phe Asp Leu His His Phe Asp
                 85                  90                  95

Gln Glu Val Ile Leu Lys Ala Ser Thr Lys Asn Gln Lys Val Ser Trp
            100                 105                 110

Lys Ser Glu Val Gln Val Glu Ser Gln Val Leu Gln His Asn Ala His
        115                 120                 125

Phe Ser Asn Asp Gln Glu Glu Val Arg Leu Asp Ile Ala Gly Ser Leu
    130                 135                 140

Glu Gly Gln Leu Trp Asp Leu Glu Asn Phe Phe Leu Pro Ala Phe Gly
145                 150                 155                 160

Lys Ser Leu Arg Glu Leu Leu Gln Ile Asp Gly Lys Arg Gln Tyr Leu
                165                 170                 175

Gln Ala Ser Thr Ser Leu His Tyr Thr Lys Asn Pro Asn Gly Tyr Leu
            180                 185                 190
```

```
Leu Ser Leu Pro Val Gln Glu Leu Thr Asp Arg Phe Ile Ile Pro Gly
        195                 200                 205

Leu Lys Leu Asn Asp Phe Ser Gly Ile Lys Ile Tyr Lys Lys Leu Ser
    210                 215                 220

Thr Ser Pro Phe Ala Leu Asn Leu Thr Met Leu Pro Lys Val Lys Phe
225                 230                 235                 240

Pro Gly Val Asp Leu Leu Thr Gln Tyr Ser Lys Pro Glu Gly Ser Ser
                245                 250                 255

Val Pro Thr Phe Glu Thr Thr Ile Pro Glu Ile Gln Leu Thr Val Ser
            260                 265                 270

Gln Phe Thr Leu Pro Lys Ser Phe Pro Val Gly Asn Thr Val Phe Asp
        275                 280                 285

Leu Asn Lys Leu Thr Asn Leu Ile Ala Asp Val Asp Leu Pro Ser Ile
    290                 295                 300

Thr Leu Pro Glu Gln Thr Ile Glu Ile Pro Ser Leu Glu Phe Ser Val
305                 310                 315                 320

Pro Ala Gly Ile Phe Ile Pro Phe Phe Gly Glu Leu Thr Ala His Val
                325                 330                 335

Gly Met Ala Ser Pro Leu Tyr Asn Val Thr Trp Ser Thr Gly Trp Lys
            340                 345                 350

Asn Lys Ala Asp His Val Glu Thr Phe Leu Asp Ser Thr Cys Ser Ser
        355                 360                 365

Thr Leu Gln Phe Leu Glu Tyr Ala Leu Lys Val Val Gly Thr His Arg
    370                 375                 380

Ile Glu Asn Asp Lys Phe Ile Tyr Lys Ile Lys Gly Thr Leu Gln His
385                 390                 395                 400

Cys Asp Phe Asn Val Lys Tyr Asn Glu Asp Gly Ile Phe Glu Gly Leu
                405                 410                 415

Trp Asp Leu Glu Gly Glu Ala His Leu Asp Ile Thr Ser Pro Ala Leu
            420                 425                 430

Thr Asp Phe His Leu His Tyr Lys Glu Asp Lys Thr Ser Val Ser Ala
        435                 440                 445
```

```
Ser Ala Ala Ser Pro Ala Ile Gly Thr Val Ser Leu Asp Ala Ser Thr
    450                 455                 460

Asp Asp Gln Ser Val Arg Leu His Val Tyr Phe Arg Pro Gln Ser Pro
465                 470                 475                 480

Pro Asp Asn Lys Leu Ser Ile Phe Lys Met Glu Trp Arg Asp Lys Glu
                485                 490                 495

Ser Asp Gly Glu Thr Tyr Ile Lys Ile Asn Trp Glu Glu Glu Ala Ala
            500                 505                 510

Phe Arg Leu Leu Asp Ser Leu Lys Ser Asn Val Pro Lys Ala Ser Glu
        515                 520                 525

Ala Val Tyr Asp Tyr Val Lys Lys Tyr His Leu Gly His Ala Ser Ser
    530                 535                 540

Glu Leu Arg Lys Ser Leu Gln Asn Asp Ala Glu His Ala Ile Arg Met
545                 550                 555                 560

Val Asp Glu Met Asn Val Asn Ala Gln Arg Val Thr Arg Asp Thr Tyr
                565                 570                 575

Gln Ser Leu Tyr Lys Lys Met Leu Ala Gln Glu Ser Gln Ser Ile Pro
            580                 585                 590

Glu Lys Leu Lys Lys Met Val Leu Gly Ser Leu Val Arg Ile Thr Gln
        595                 600                 605

Lys Tyr His Met Ala Val Thr Trp Leu Met Asp Ser Val Ile His Phe
    610                 615                 620

Leu Lys Phe Asn Arg Val Gln Phe Pro Gly Asn Ala Gly Thr Tyr Thr
625                 630                 635                 640

Val Asp Glu Leu Tyr Thr Ile Ala Met Arg Glu Thr Lys Lys Leu Leu
                645                 650                 655

Ser Gln Leu Phe Asn Gly Leu Gly His Leu Phe Ser Tyr Val Gln Asp
            660                 665                 670

Gln Val Glu Lys Ser Arg Val Ile Asn Asp Ile Thr Phe Lys Cys Pro
        675                 680                 685

Phe Ser Pro Thr Pro Cys Lys Leu Lys Asp Val Leu Leu Ile Phe Arg
    690                 695                 700
```

```
Glu Asp Leu Asn Ile Leu Ser Asn Leu Gly Gln Gln Asp Ile Asn Phe
705                 710                 715                 720

Thr Thr Ile Leu Ser Asp Phe Gln Ser Phe Leu Glu Arg Leu Leu Asp
                725                 730                 735

Ile Ile Glu Glu Lys Ile Glu Cys Leu Lys Asn Asn Glu Ser Thr Cys
            740                 745                 750

Val Pro Asp His Ile Asn Met Phe Phe Lys Thr His Ile Pro Phe Ala
        755                 760                 765

Phe Lys Ser Leu Arg Glu Asn Ile Tyr Ser Val Phe Ser Glu Phe Asn
    770                 775                 780

Asp Phe Val Gln Ser Ile Leu Gln Glu Gly Ser Tyr Lys Leu Gln Gln
785                 790                 795                 800

Val His Gln Tyr Met Lys Ala Phe Arg Glu Glu Tyr Phe Asp Pro Ser
                805                 810                 815

Val Val Gly Trp Thr Val Lys Tyr Tyr Glu Ile Glu Glu Lys Met Val
            820                 825                 830

Asp Leu Ile Lys Thr Leu Leu Ala Pro Leu Arg Asp Phe Tyr Ser Glu
        835                 840                 845

Tyr Ser Val Thr Ala Ala Asp Phe Ala Ser Lys Met Ser Thr Gln Val
    850                 855                 860

Glu Gln Phe Val Ser Arg Asp Ile Arg Glu Tyr Leu Ser Met Leu Ala
865                 870                 875                 880

Asp Ile Asn Gly Lys Gly Arg Glu Lys Val Ala Glu Leu Ser Ile Val
                885                 890                 895

Val Lys Glu Arg Ile Lys Ser Trp Ser Thr Ala Val Ala Glu Ile Thr
            900                 905                 910

Ser Asp Tyr Leu Arg Gln Leu His Ser Lys Leu Gln Asp Phe Ser Asp
        915                 920                 925

Gln Leu Ser Gly Tyr Tyr Glu Lys Phe Val Ala Glu Ser Thr Arg Leu
    930                 935                 940

Ile Asp Leu Ser Ile Gln Asn Tyr His Met Phe Leu Arg Tyr Ile Ala
945                 950                 955                 960
```

```
Glu Leu Leu Lys Lys Leu Gln Val Ala Thr Ala Asn Asn Val Ser Pro
                965                 970                 975

Tyr Leu Arg Phe Ala Gln Gly Glu Leu Ile Ile Thr Phe
            980                 985


<210> 219
<211> 396
<212> PRT
<213> Homo sapiens

<400> 219
Lys Asp Asn Val Phe Asp Gly Leu Val Arg Val Thr Gln Lys Phe His
  1               5                  10                  15

Met Lys Val Lys His Leu Ile Asp Ser Leu Ile Asp Phe Leu Asn Phe
             20                  25                  30

Pro Arg Phe Gln Phe Pro Gly Lys Pro Gly Ile Tyr Thr Arg Glu Glu
         35                  40                  45

Leu Cys Thr Met Phe Ile Arg Glu Val Gly Thr Val Leu Ser Gln Val
     50                  55                  60

Tyr Ser Lys Val His Asn Gly Ser Glu Ile Leu Phe Ser Tyr Phe Gln
 65                  70                  75                  80

Asp Leu Val Ile Thr Leu Pro Phe Glu Leu Arg Lys His Lys Leu Ile
                 85                  90                  95

Asp Val Ile Ser Met Tyr Arg Glu Leu Leu Lys Asp Leu Ser Lys Glu
            100                 105                 110

Ala Gln Glu Val Phe Lys Ala Ile Gln Ser Leu Lys Thr Thr Glu Val
        115                 120                 125

Leu Arg Asn Leu Gln Asp Leu Leu Gln Phe Ile Phe Gln Leu Ile Glu
    130                 135                 140

Asp Asn Ile Lys Gln Leu Lys Glu Met Lys Phe Thr Tyr Leu Ile Asn
145                 150                 155                 160

Tyr Ile Gln Asp Glu Ile Asn Thr Ile Phe Asn Asp Tyr Ile Pro Tyr
                165                 170                 175

Val Phe Lys Leu Leu Lys Glu Asn Leu Cys Leu Asn Leu His Lys Phe
```

```
            180                 185                 190

Asn Glu Phe Ile Gln Asn Glu Leu Gln Glu Ala Ser Gln Glu Leu Gln
        195                 200                 205

Gln Ile His Gln Tyr Ile Met Ala Leu Arg Glu Glu Tyr Phe Asp Pro
    210                 215                 220

Ser Ile Val Gly Trp Thr Val Lys Tyr Tyr Glu Leu Glu Glu Lys Ile
225                 230                 235                 240

Val Ser Leu Ile Lys Asn Leu Leu Val Ala Leu Lys Asp Phe His Ser
                245                 250                 255

Glu Tyr Ile Val Ser Ala Ser Asn Phe Thr Ser Gln Leu Ser Ser Gln
            260                 265                 270

Val Glu Gln Phe Leu His Arg Asn Ile Gln Glu Tyr Leu Ser Ile Leu
        275                 280                 285

Thr Asp Pro Asp Gly Lys Gly Lys Glu Lys Ile Ala Glu Leu Ser Ala
    290                 295                 300

Thr Ala Gln Glu Ile Ile Lys Ser Gln Ala Ile Ala Thr Lys Lys Ile
305                 310                 315                 320

Ile Ser Asp Tyr His Gln Gln Phe Arg Tyr Lys Leu Gln Asp Phe Ser
                325                 330                 335

Asp Gln Leu Ser Asp Tyr Tyr Glu Lys Phe Ile Ala Glu Ser Lys Arg
            340                 345                 350

Leu Ile Asp Leu Ser Ile Gln Asn Tyr His Thr Phe Leu Ile Tyr Ile
        355                 360                 365

Thr Glu Leu Leu Lys Lys Leu Gln Ser Thr Thr Val Met Asn Pro Tyr
    370                 375                 380

Met Lys Leu Ala Pro Gly Glu Leu Thr Ile Ile Leu
385                 390                 395


<210> 220
<211> 433
<212> PRT
<213> Homo sapiens

<400> 220
```

```
Ile Pro Gly Leu Ser Glu Lys Tyr Thr Gly Glu Glu Leu Tyr Leu Met
  1               5                  10                  15

Thr Thr Glu Lys Ala Ala Lys Thr Ala Asp Ile Cys Leu Ser Lys Leu
             20                  25                  30

Gln Glu Tyr Phe Asp Ala Leu Ile Ala Ala Ile Ser Glu Leu Glu Val
         35                  40                  45

Arg Val Pro Ala Ser Glu Thr Ile Leu Arg Gly Arg Asn Val Leu Asp
     50                  55                  60

Gln Ile Lys Glu Met Leu Lys His Leu Gln Glu Lys Ile Arg Gln Thr
 65                  70                  75                  80

Phe Val Thr Leu Gln Glu Ala Asp Phe Ala Gly Lys Leu Asn Arg Leu
                 85                  90                  95

Lys Gln Val Val Gln Lys Thr Phe Gln Lys Ala Gly Asn Met Val Arg
            100                 105                 110

Ser Leu Gln Ser Lys Asn Phe Glu Asp Ile Lys Val Gln Met Gln Gln
        115                 120                 125

Leu Tyr Lys Asp Ala Met Ala Ser Asp Tyr Ala His Lys Leu Arg Ser
    130                 135                 140

Leu Ala Glu Asn Val Lys Lys Tyr Ile Ser Gln Ile Lys Asn Phe Ser
145                 150                 155                 160

Gln Lys Thr Leu Gln Lys Leu Ser Glu Asn Leu Gln Gln Leu Val Leu
                165                 170                 175

Tyr Ile Lys Ala Leu Arg Glu Glu Tyr Phe Asp Pro Thr Thr Leu Gly
            180                 185                 190

Trp Ser Val Lys Tyr Tyr Glu Val Glu Asp Lys Val Leu Gly Leu Leu
        195                 200                 205

Lys Asn Leu Met Asp Thr Leu Val Ile Trp Tyr Asn Glu Tyr Ala Lys
    210                 215                 220

Asp Leu Ser Asp Leu Val Thr Arg Leu Thr Asp Gln Val Arg Glu Leu
225                 230                 235                 240

Val Glu Asn Tyr Arg Gln Glu Tyr Tyr Asp Leu Ile Thr Asp Val Glu
                245                 250                 255
```

```
Gly Lys Gly Arg Gln Lys Val Met Glu Leu Ser Ser Ala Ala Gln Glu
            260                 265                 270

Lys Ile Arg Tyr Trp Ser Ala Val Ala Lys Arg Lys Ile Asn Glu His
        275                 280                 285

Asn Arg Gln Val Lys Ala Lys Leu Gln Glu Ile Tyr Gly Gln Leu Ser
    290                 295                 300

Asp Ser Gln Glu Lys Leu Ile Asn Val Ala Lys Met Leu Ile Asp Leu
305                 310                 315                 320

Thr Val Glu Lys Tyr Ser Thr Phe Met Lys Tyr Ile Phe Glu Leu Leu
                325                 330                 335

Arg Trp Phe Glu Gln Ala Thr Ala Asp Ser Ile Lys Pro Tyr Ile Ala
            340                 345                 350

Val Arg Glu Gly Glu Leu Arg Ile Asp Val Pro Phe Asp Trp Glu Tyr
        355                 360                 365

Ile Asn Gln Met Pro Gln Lys Ser Arg Glu Ala Leu Arg Asn Lys Val
    370                 375                 380

Glu Leu Thr Arg Ala Leu Ile Gln Gln Gly Val Glu Gln Gly Thr Arg
385                 390                 395                 400

Lys Trp Glu Glu Met Gln Ala Phe Ile Asp Glu Gln Leu Ala Thr Glu
                405                 410                 415

Gln Leu Ser Phe Gln Gln Ile Val Glu Asn Ile Gln Lys Arg Met Lys
            420                 425                 430

Thr
```

<210> 221
<211> 180
<212> PRT
<213> Homo sapiens

<400> 221

```
Asp Met Thr Phe Ser Lys Gln Asn Ala Leu Leu Arg Ser Glu Tyr Gln
  1               5                  10                  15

Ala Asp Tyr Glu Ser Leu Arg Phe Phe Ser Leu Leu Ser Gly Ser Leu
             20                  25                  30
```

```
Asn Ser His Gly Leu Glu Leu Asn Ala Asp Ile Leu Gly Thr Asp Lys
         35                  40                  45

Ile Asn Ser Gly Ala His Lys Ala Thr Leu Arg Ile Gly Gln Asp Gly
     50                  55                  60

Ile Ser Thr Ser Ala Thr Thr Asn Leu Lys Cys Ser Leu Leu Val Leu
 65                  70                  75                  80

Glu Asn Glu Leu Asn Ala Glu Leu Gly Leu Ser Gly Ala Ser Met Lys
                 85                  90                  95

Leu Thr Thr Asn Gly Arg Phe Arg Glu His Asn Ala Lys Phe Ser Leu
            100                 105                 110

Asp Gly Lys Ala Ala Leu Thr Glu Leu Ser Leu Gly Ser Ala Tyr Gln
        115                 120                 125

Ala Met Ile Leu Gly Val Asp Ser Lys Asn Ile Phe Asn Phe Lys Val
    130                 135                 140

Ser Gln Glu Gly Leu Lys Leu Ser Asn Asp Met Met Gly Ser Tyr Ala
145                 150                 155                 160

Glu Met Lys Phe Asp His Thr Asn Ser Leu Asn Ile Ala Gly Leu Ser
                165                 170                 175

Leu Asp Phe Ser
            180


<210> 222
<211> 142
<212> PRT
<213> Homo sapiens

<400> 222
Asp Leu Thr Phe Ser Lys Gln Asn Ala Leu Leu Arg Ala Glu Tyr Gln
  1               5                  10                  15

Ala Asp Tyr Lys Ser Leu Arg Phe Phe Thr Leu Leu Ser Gly Leu Leu
             20                  25                  30

Asn Thr His Gly Leu Glu Leu Asn Ala Asp Ile Leu Gly Thr Asp Lys
         35                  40                  45

Met Asn Thr Ala Ala His Lys Ala Thr Leu Arg Ile Gly Gln Asn Gly
```

```
     50                  55                  60

Val Ser Thr Ser Ala Thr Thr Ser Leu Arg Tyr Ser Pro Leu Met Leu
 65                  70                  75                  80

Glu Asn Glu Leu Asn Ala Glu Leu Ala Leu Ser Gly Ala Ser Met Lys
                 85                  90                  95

Leu Ala Thr Asn Gly Arg Phe Lys Glu His Asn Ala Lys Phe Ser Leu
            100                 105                 110

Asp Gly Lys Ala Thr Leu Thr Glu Leu Ser Leu Gly Ser Ala Tyr Gln
        115                 120                 125

Ala Met Ile Leu Gly Ala Asp Ser Lys Asn Ile Phe Asn Phe
    130                 135                 140


<210> 223
<211> 420
<212> PRT
<213> Homo sapiens

<400> 223
His Ile Phe Ile Pro Ala Met Gly Asn Ile Thr Tyr Asp Phe Ser Phe
  1               5                  10                  15

Lys Ser Ser Val Ile Thr Leu Asn Thr Asn Ala Glu Leu Phe Asn Gln
             20                  25                  30

Ser Asp Ile Val Ala His Leu Leu Ser Ser Ser Ser Ser Val Ile Asp
         35                  40                  45

Ala Leu Gln Tyr Lys Leu Glu Gly Thr Thr Arg Leu Thr Arg Lys Arg
     50                  55                  60

Gly Leu Lys Leu Ala Thr Ala Leu Ser Leu Ser Asn Lys Phe Val Glu
 65                  70                  75                  80

Gly Ser His Asn Ser Thr Val Ser Leu Thr Thr Lys Asn Met Glu Val
                 85                  90                  95

Ser Val Ala Lys Thr Thr Lys Ala Glu Ile Pro Ile Leu Arg Met Asn
            100                 105                 110

Phe Lys Gln Glu Leu Asn Gly Asn Thr Lys Ser Lys Pro Thr Val Ser
        115                 120                 125
```

```
Ser Ser Met Glu Phe Lys Tyr Asp Phe Asn Ser Ser Met Leu Tyr Ser
    130                 135                 140

Thr Ala Lys Gly Ala Val Asp His Lys Leu Ser Leu Glu Ser Leu Thr
145                 150                 155                 160

Ser Tyr Phe Ser Ile Glu Ser Ser Thr Lys Gly Asp Val Lys Gly Ser
                165                 170                 175

Val Leu Ser Arg Glu Tyr Ser Gly Thr Ile Ala Ser Glu Ala Asn Thr
            180                 185                 190

Tyr Leu Asn Ser Lys Ser Thr Arg Ser Ser Val Lys Leu Gln Gly Thr
        195                 200                 205

Ser Lys Ile Asp Asp Ile Trp Asn Leu Glu Val Lys Glu Asn Phe Ala
    210                 215                 220

Gly Glu Ala Thr Leu Gln Arg Ile Tyr Ser Leu Trp Glu His Ser Thr
225                 230                 235                 240

Lys Asn His Leu Gln Leu Glu Gly Leu Phe Phe Thr Asn Gly Glu His
                245                 250                 255

Thr Ser Lys Ala Thr Leu Glu Leu Ser Pro Trp Gln Met Ser Ala Leu
            260                 265                 270

Val Gln Val His Ala Ser Gln Pro Ser Ser Phe His Asp Phe Pro Asp
        275                 280                 285

Leu Gly Gln Glu Val Ala Leu Asn Ala Asn Thr Lys Asn Gln Lys Ile
    290                 295                 300

Arg Trp Lys Asn Glu Val Arg Ile His Ser Gly Ser Phe Gln Ser Gln
305                 310                 315                 320

Val Glu Leu Ser Asn Asp Gln Glu Lys Ala His Leu Asp Ile Ala Gly
                325                 330                 335

Ser Leu Glu Gly His Leu Arg Phe Leu Lys Asn Ile Ile Leu Pro Val
            340                 345                 350

Tyr Asp Lys Ser Leu Trp Asp Phe Leu Lys Leu Asp Val Thr Thr Ser
        355                 360                 365

Ile Gly Arg Arg Gln His Leu Arg Val Ser Thr Ala Phe Val Tyr Thr
    370                 375                 380
```

```
Lys Asn Pro Asn Gly Tyr Ser Phe Ser Ile Pro Val Lys Val Leu Ala
385                 390                 395                 400

Asp Lys Phe Ile Thr Pro Gly Leu Lys Leu Asn Asp Leu Asn Ser Val
                405                 410                 415

Leu Val Met Pro
            420
```

<210> 224
<211> 275
<212> PRT
<213> Homo sapiens

<400> 224

```
Met Ala Ser Glu Lys Gly Pro Ser Asn Lys Asp Tyr Thr Leu Arg Arg
  1               5                  10                  15

Arg Ile Glu Pro Trp Glu Phe Glu Val Phe Phe Asp Pro Gln Glu Leu
             20                  25                  30

Arg Lys Glu Ala Cys Leu Leu Tyr Glu Ile Lys Trp Gly Ala Ser Ser
         35                  40                  45

Lys Thr Trp Arg Ser Ser Gly Lys Asn Thr Thr Asn His Val Glu Val
     50                  55                  60

Asn Phe Leu Glu Lys Leu Thr Arg Lys Glu Ala Cys Leu Leu Tyr Glu
 65                  70                  75                  80

Ile Lys Trp Gly Ala Ser Ser Lys Thr Trp Arg Ser Ser Gly Lys Asn
                 85                  90                  95

Thr Thr Asn His Val Glu Val Asn Phe Leu Glu Lys Leu Thr Ser Glu
            100                 105                 110

Gly Arg Leu Gly Pro Ser Thr Cys Cys Ser Ile Thr Trp Phe Leu Ser
        115                 120                 125

Trp Ser Pro Cys Trp Glu Cys Ser Met Ala Ile Arg Glu Phe Leu Ser
    130                 135                 140

Gln His Pro Gly Val Thr Leu Ile Ile Phe Val Ala Arg Leu Phe Gln
145                 150                 155                 160

His Met Asp Arg Arg Asn Arg Gln Gly Leu Lys Asp Leu Val Thr Ser
                165                 170                 175
```

```
Gly Val Thr Val Arg Val Met Ser Val Ser Glu Tyr Cys Tyr Cys Trp
            180                 185                 190

Glu Asn Phe Val Asn Tyr Pro Pro Gly Lys Ala Ala Gln Trp Pro Arg
        195                 200                 205

Tyr Pro Pro Arg Trp Met Leu Met Tyr Ala Leu Glu Leu Tyr Cys Ile
    210                 215                 220

Ile Leu Gly Leu Pro Pro Cys Leu Lys Ile Ser Arg Arg His Gln Lys
225                 230                 235                 240

Gln Leu Thr Phe Phe Ser Leu Thr Pro Gln Tyr Cys His Tyr Lys Met
                245                 250                 255

Ile Pro Pro Tyr Ile Leu Leu Ala Thr Gly Leu Leu Gln Pro Ser Val
            260                 265                 270

Pro Trp Arg
        275
```

<210> 225
<211> 589
<212> DNA
<213> Homo sapiens

<400> 225
ggatctgacg gttcactaaa ccagctctgc ttatatagac ctcccaccgt acacgcctac 60
cgcccatttg cgtcaatggg gcggagttgt tacgacattt tggaaagtcc cgttgatttt 120
ggtgccaaaa caaactccat tgacgtcaat ggggtggaga cttggaaatc cccgtgagtc 180
aaaccgctat ccacgcccat tgatgtactg ccaaaaccgc atcaccatgg taatagcgat 240
gactaatacg tagatgtact gccaagtagg aaagtcccat aaggtcatgt actgggcata 300
atgccaggcg ggccatttac cgtcattgac gtcaataggg ggcgtacttg gcatatgata 360
cacttgatgt actgccaagt gggcagttta ccgtaaatac tccacccatt gacgtcaatg 420
gaaagtccct attggcgtta ctatgggaac atacgtcatt attgacgtca atgggcgggg 480
gtcgttgggc ggtcagccag gcgggccatt taccgtaagt tatgtaacgc ggaactccat 540
atatgggcta tgaactaatg accccgtaat tgattactat taataacta 589

<210> 226
<211> 35
<212> DNA
<213> Homo sapiens

<400> 226
gatccaaatc acccactgca actcctcccc ctgcg 35

<210> 227
<211> 26
<212> DNA
<213> Homo sapiens

<400> 227
gatccatcca attgggcaat caggag 26

<210> 228
<211> 18
<212> DNA
<213> Homo sapiens

<400> 228
gatccggtct ccaattgg 18

<210> 229
<211> 34
<212> DNA
<213> Homo sapiens

<400> 229
gatcctcggg aaagggaaac cgaaactgaa gccg 34